10¢ A COPY

The OIL WEEKLY

September 24, 1926 Volume 43. No. 1

The accompanying photograph shows E. C. (Shorty) Van Horn, driller, and his crew on the American Refining Company's well No. 9 Burnett, Carson County, Panhandle field.

A RECORD PERFORMANCE IN *The Panhandle* MADE WITH HUGHES ROTARY BITS

2034 feet 8⅝" casing was set in 12 days, using Hughes Disc Bits exclusively.

An 8" Hughes Simplex Rock Bit was then used, making 908 feet of lime (known in the Panhandle as the big lime) in 7 days. Only six sets of Hughes Self-Cleaning Cones were used—one set making 248 feet.

Last string of pipe was set at 2942 feet, 20 DAYS AFTER SPUDDING IN.

HUGHES TOOL COMPANY

Service Plants Los Angeles, Calif. Oklahoma City, Okla.

Main Office and Plant HOUSTON, TEXAS

Export Office New York City, N. Y.

TN860
.05

The Safest and Most Satisfactory Drilling Jars Made!

Spang Weldless Drilling Jars have exceptional wearing qualities. Every oil field operator and every driller who has used Spang Jars—will verify this statement.

Spang Weldless Jars are made to meet the most severe service—they're manufactured from a single piece of tough alloy steel, a construction that absolutely eliminates the welds which constantly encourage failures and fractures.

Once you have tried the Spang Weldless Jar—you will use no other.

SPANG AND COMPANY

Butler, ••• Penna.

Sold By Your Supply Company

Spang Thread Protector

Protect your tool joints with Spang Thread Protectors. Like all Spang products they guarantee absolute satisfaction and long, durable wear.

Over 300 Supply Stores carry complete stocks of Spang Weldless Drilling Jars

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

fittings

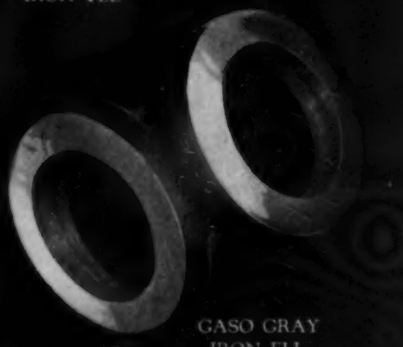
The same quality of castings, the same accurate machining, the same careful workmanship that we put into Gaso Pumps we also put into Gaso FITTINGS. As a result, they have a special appeal for pipe line officials who build with the future in mind.

In addition to a comprehensive line of standard fittings—including heater heads, Beckwith swing check valves, liner expanders, river clamps, pipe line strainers, extra heavy flanges and ground joint flange unions—our foundry and pattern shop enable us to figure on special requirements.

Our engineering department is, as always, at your command.

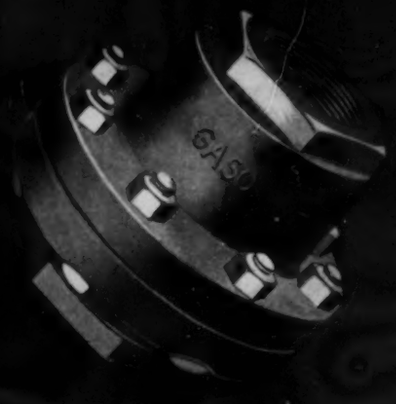
GASO PUMP & BURNER MFG. CO. ·· *Tulsa, Oklahoma*

GASO GRAY IRON TEE



GASO GRAY IRON ELL

GASO PIPE LINE STRAINER



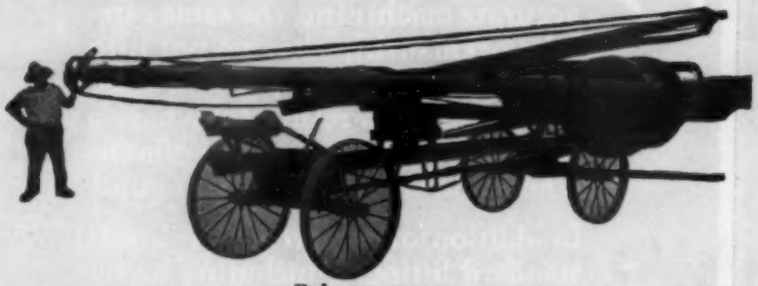
GASO BECKWITH SWING CHECK VALVE

GASO PUMPS

PUT IT IN YOUR SOCK

Saving money is just another way of making it. You cannot save money when wells are standing idle because of needed repairs. A constant repair bill for pulling equipment eats deeply into the profits. A dropped string of rods or tubing is a "nightmare" to a pocket book. Every operator knows that a paying lease must be kept close to its peak of production. Eliminating pulling problems is half the battle.

Ready for the road



Balances easy

THAT'S WHERE WE COME IN

IRON KING pulling machines are built for speed, a vital factor in keeping wells producing. Its iron and steel construction enables it to stand up under severe strains without injury. It is your best "hired man."

If your oil well supply store will not get you an IRON KING write us direct. We have a catalog for you.

Iron King Manufacturing Co.
Bradner ——— Ohio

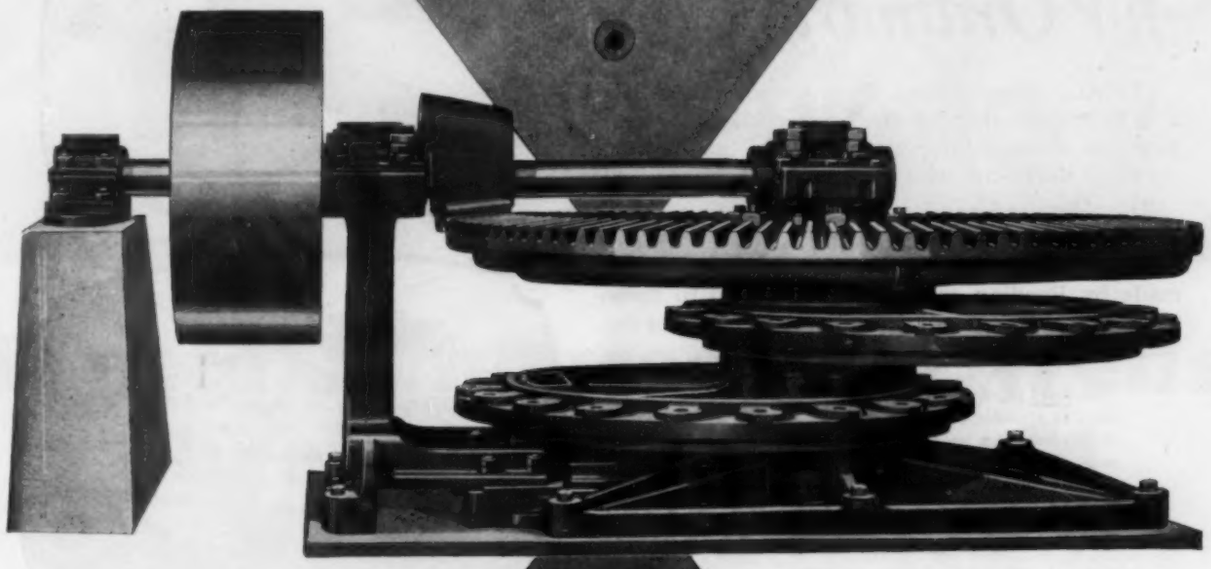
He's putting it up

All set

PATTIN

UNDER PULL POWER

HEAVY TYPE



The most improved—most powerfully geared Power yet developed for oil field service.

Just as strong—just as reliable as the usual band wheel powers—and far less expensive to install and operate.

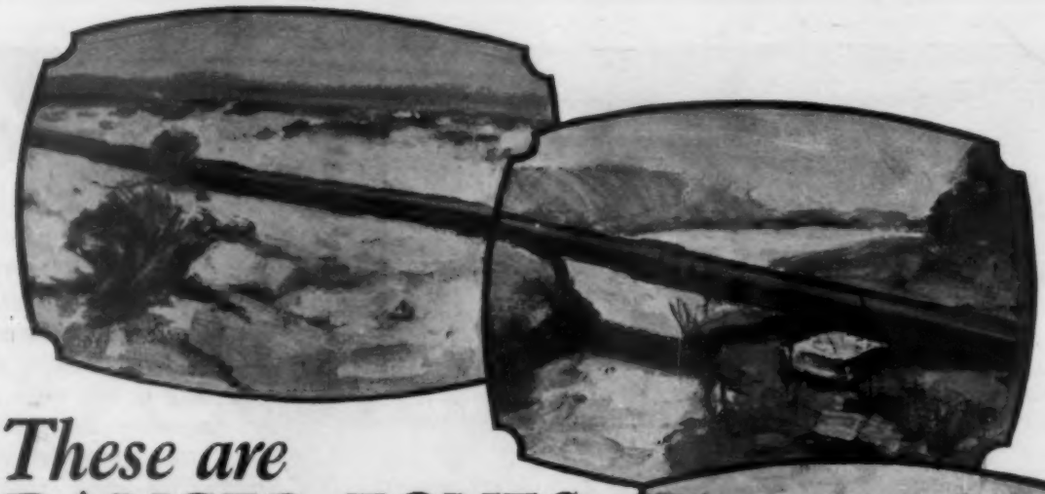
Let us send you the facts

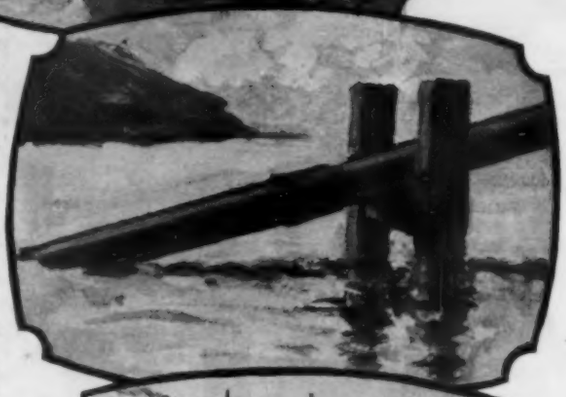
PATTIN BROTHERS CO.

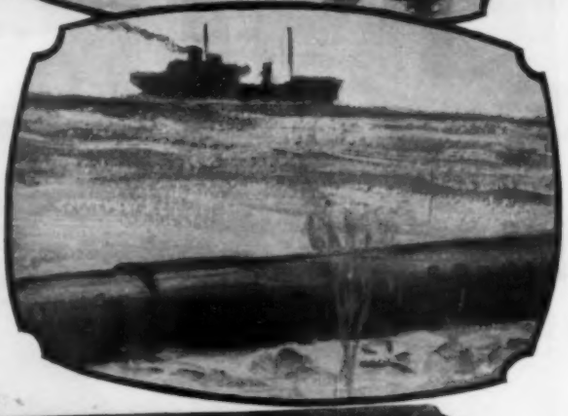
Marietta Ohio

"PATTIN" PRODUCTS PLEASE

Say you saw it in The OIL WEEKLY







These are DANGER ZONES *for Ordinary Pipe*

ALKALI, Marshy Bogs, River Crossings and Salt Water are met by nearly every long-distance pipe line. In every one of them lurks the greatest enemy of steel—corrosion.

To safely conduct oil across these danger zones it takes the rust-resisting properties of Reading Genuine Wrought Iron Pipe. For Wrought Iron, as made by Reading, will outlast steel two to three times over, and give an extra measure of service far out of proportion to its slightly higher price.

The best pipe line is all-Reading. The next best is Reading in the danger zones, where it makes the weak spots strong and adds many years to the life of the entire line.

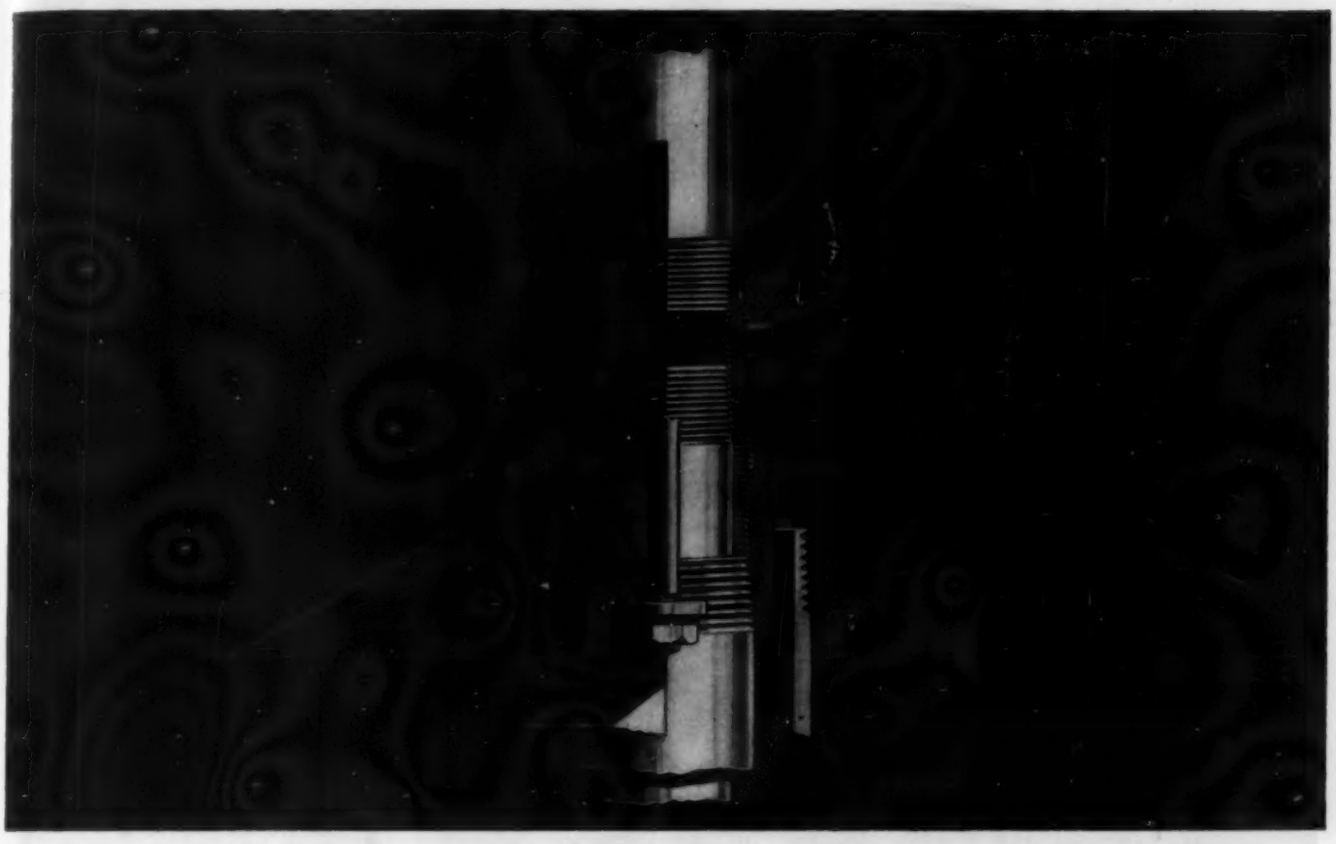
READING IRON COMPANY
Reading, Penna.

World's Largest Makers of Genuine Wrought Iron Pipe

OIL WELL SUPPLY COMPANY, Distributors
Inquire at any of their 100 Branches

READING PIPE
GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY



Protects Thousands of Wells Throughout the World

Regan Pipe Suspension and Control Head

Why fuss and bother with old style casing or gas packing clamps when you can land pipe and obtain desired suspension with this simple, effective device? If the Regan Control Head and Pipe Suspension accomplished nothing more than to facilitate pipe suspension its value would be worth many times its cost—but it also controls pressure AT ALL TIMES, prevents fire, conserves cellar space, eliminates leaks between the strings and gives many other advantages. No operator who has once used a Regan Head has ever drilled a subsequent well without one.

Direct factory service is available throughout the Mid-Continent. Our Field Offices are in charge of experienced men who have specialized for years in pressure control of oil wells and their knowledge is at your disposal. Stocks of various Regan Products carried for immediate delivery.

Regan

Forge & Engineering Co.

San Pedro California

Quality – Wrought on the Forge of Experience

Our Houston Office, in charge of Lew Hilton, is located at 1521 Post-Dispatch Building. Tulsa Office at 227 Mayo Building. New York Office in Evening Post Building, 75 West Street. To serve southern fields we have selected J. W. Allen, with headquarters at Tampico, Mexico, Apdo. 1064.

Designers and Manufacturers of Quality Oil Well Equipment

METRIC METERS

At the Oil Capital's Headquarters

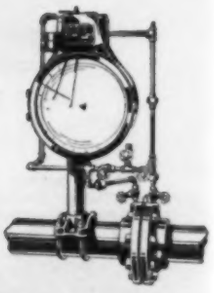
It is the logical result of experience in the outlying oil and gas districts, that these Metrics should be installed in the very heart of Tulsa at the Mayo.

From this famous gathering place for the industry, out to the most isolated leases in Oildom, thousands of Metric Meters are reporting production and consumption of gas and oil with the characteristic accuracy for which they are renowned.

METRICS put SURE —in— MEASUREMENT

METERS METRIC

WESTCOTT & GREIS, Inc
Sales Service
Dallas Tulsa Los Angeles



METRIC METAL WORKS
of the American Meter Company-Inc.
ERIE - PENNSYLVANIA - U-S-A

Say you saw it in The OIL WEEKLY

ANY TOOL ANY TIME ANY PLACE

OUR PHYSICAL EQUIPMENT

Character is more important than size but, generally speaking, the size of any manufacturing plant depends upon the character of its product.

There is some satisfaction in dealing with a firm the size of Bridgeport because of the certainty of getting what you want when you want it.

Any tool, any time, any place is possible with Bridgeport only because of the size of our factory and its physical equipment which makes good the implied promise in that slogan.

In our factory, covering 10 acres, is every piece of machinery necessary to manufacturing oil well drilling and fishing tools, including many machines of special design.

THE BEST TOOLS—from one end of the string to the other

THE BRIDGEPORT MACHINE COMPANY

WICHITA KANSAS

BRANCHES

Wichita, Kans.* Russell, Kans.* Gorham, Kans. Eldorado, Kan. Winfield, Kans
Tulsa, Okla. Stroud, Okla. Depew, Okla, Wetumka, Okla
Tonkawa, Okla. Garber, Okla. Braman, Okla.* Pawnee, Okla.*
Ranger, Tex. Panhandle, Tex.* Breckenridge, Tex.
Isom, Texas. Marietta, Ohio

*Complete stock of Contractor's Supplies carried here.

Say you saw it in The OIL WEEKLY

Sivyer Castings can be forged and welded

To the left is a latch, and to the right a jaw, casting for an oil well tool and pipe tong. Both of these important parts are cast in Sivyer Electric Steel.

SIVYER (S) CASTINGS
DEPENDABLE

What We Mean by Interior Soundness

THE casting pictured to the left, above, is an example of what we mean by *interior soundness.* In this particular job the light section at the lower end of the piece tends to draw the metal as the casting cools. The natural result of such an action is a "shrink hole" somewhere along the lower end of the thicker head. A casting with such a defect must either be scrapped or be passed on with the danger of breakage in service. Here, as in so many other cases, Sivyer Foundry Practice has been able to eliminate both dangers for the manufacturer. A careful study of the part has led to the proper distribution of "heads," "gates," "risers" and "feeders" on the casting pattern. As a result, the natural "shrink" has been definitely "licked." How completely, is illustrated by the fact that not a single one of these castings has been reported as having broken in service.

SEND BLUE PRINTS

If you are having trouble with castings cast in other metals or by other methods, it is quite probable that Sivyer Electric Steel may be your solution.

At any rate the cost of sending us blue prints of the parts giving trouble is small — and we will be glad to tell you all we can without obligating you in any way

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

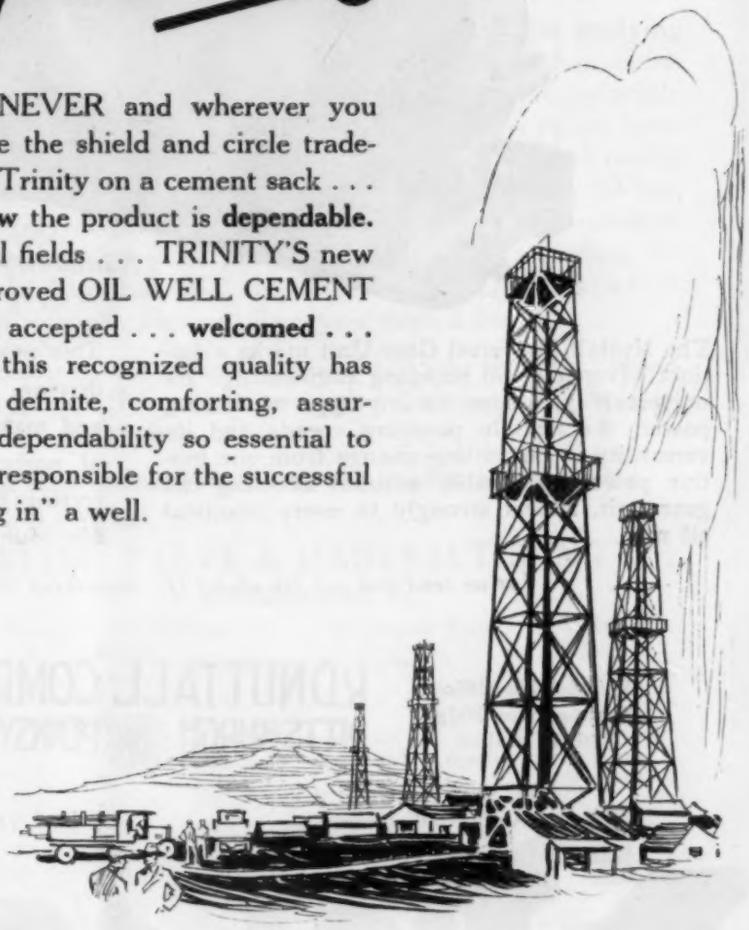
Say you saw it in The OIL WEEKLY

TRINITY
OIL WELL CEMENT

Dependable

WHENEVER and wherever you see the shield and circle trademark of Trinity on a cement sack . . . you **know** the product is **dependable.** In the oil fields . . . TRINITY'S new and improved OIL WELL CEMENT has been accepted . . . **welcomed** . . . because this recognized quality has given a definite, comforting, assurance of dependability so essential to the men responsible for the successful "bringing in" a well.

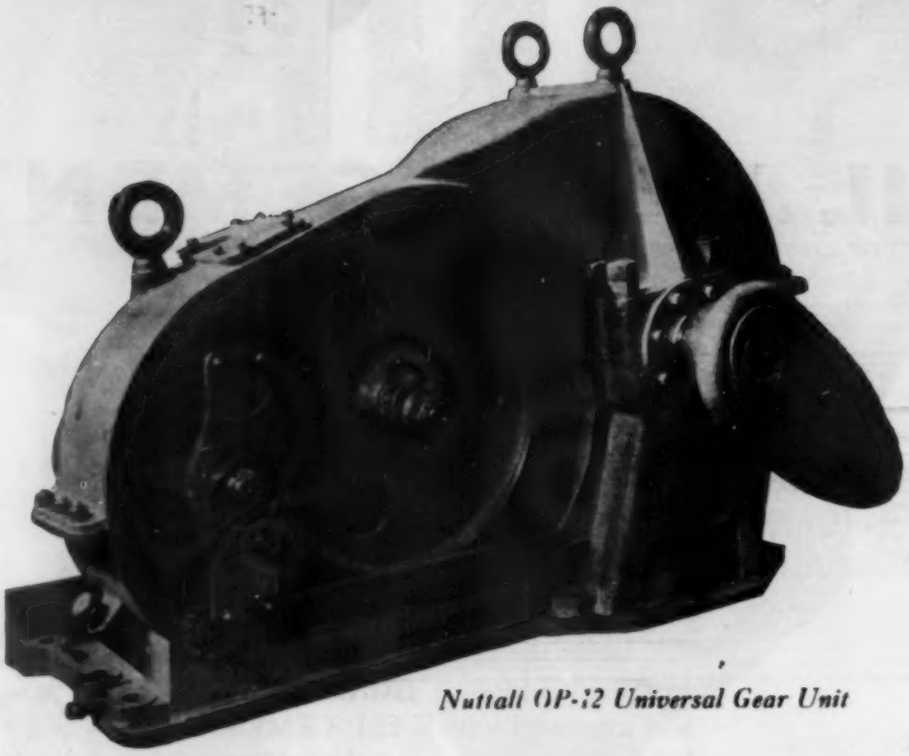
Now . . . ready for immed'ate shipment. Packed in distinctive, extra-heavy, water-proof green bags. Information gladly supplied those interested.



TRINITY PORTLAND CEMENT CO.

DALLAS :-: FT. WORTH

A Unique Type of Universal Gear Drive for Oil Pumping



Nuttall OP-12 Universal Gear Unit

The Nuttall Universal Gear Unit marks a distinct advance in oil pumping engineering. Its universal application to any type of driving power, the flexible pumping speeds and its versatility in permitting change from one motive power to another without affecting the gear unit, appeal strongly to every practical oil man.

This novel gear unit is installed between the driving element and the standard pitman, and makes it possible to change the number of pumping strokes per minute without affecting the efficiency of the driving element. No countershaft, no band wheel required.

Let us send you our circular "O" describing this modern pumping unit

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OIL WELL SUPPLY CO.,
Authorized Distributor

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Toronto, Montreal

Nuttall

Hidden Strength

By the hidden strength of steam which the boy Watt discovered in the singing of a teakettle, the modern world of industry with its myriad sources of useful power sprang into being.

Watt invented the steam engine **by seeing and applying a principle.** Likewise, Darling Valves owe their existence to the successful application of a sound principle conceived 25 years ago. This principle has never been changed nor has the fine quality of the original model been altered in a generation of valve-making. When you buy Darling Gate Valves today you are assured of the same long years of easy operation and unfailing dependability that still characterizes the Darlings which were put into service when you were a boy.

Veterans of the oil industry will tell you that the hidden strength of these right-principled Valves never fails in time of emergency.

What more could you ask of any man-made product?

Emblem of
BUSINESS CHARACTER
Rice Leaders of the World Association
Represents High Standing in
NAME-PRODUCT-POLICY

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:

Frick-Reid Supply Co. Atlas Supply Co.
International Supply Co. Petroleum Supply Co.
California Supply Co.
Petroleum Equipment Company, Los Angeles

DARLING
GATE VALVES

YOU BUY A BIT FOR THE "HOLE" IT MAKES

—so why not buy the bit that makes the MOST hole!

—Gulfco "Banner Brand" Bits, Forged From Crescent Steel

—Do make MORE hole per dollar of cost; and give MORE hours of trouble-free service on the bottom of your well!

That Is the Reason Why--

—One of the major oil companies alone have used over 250,000 pounds of Gulfco "Banner Brand" bits during the past 12 months.

—We have made and sold nearly two-million pounds of these superior bits in less than four years.

—Sales have averaged 1250 pounds per day since January 1st, 1926.

Forging a big one

As Soon as You Start Buying Bits "On Performance" You'll Stick to

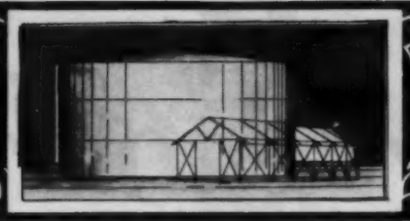
Gulfco "Banner Brand"

GULF CO PRODUCTS

GULF COAST MACHINE & SUPPLY CO.

HOUSTON, TEXAS
316 West Bldg.

BEAUMONT, TEXAS
305 Orange St.



Announcing a New Institution Created by Popular Demand

This new department . . . created by popular demand within the Oil Industry . . . is prepared to furnish PLATE AND STRUCTURAL STEEL CONSTRUCTION . . . vertical and horizontal storage tanks for the producer, refiner, storer and transporter of crude and refined oils . . . tanks with a capacity up to 80,000 barrels . . . completely fabricated and erected . . . fabricated steel and built-up steel trusses.

This department also will specialize in cutting down and rebuilding tanks.

Car Building and Repair Shops

We own and operate car building and repair shops at Chicago, Ill., Tulsa, Okla., and Coffeyville, Kans.

These shops are maintained not only for the purpose of keeping our more than 3,500 tank and refrigerator cars in the highest state of efficiency, but this maintenance service also is offered to those companies operating their own cars.

This service is economical and efficient. We solicit correspondence from those companies having use for it.

Oil Terminal Facilities

Located at Chicago, Tulsa and New Orleans we maintain fully equipped storage facilities for handling all liquid commodities for the convenience of companies wishing storage and distribution facilities for import, export or domestic shipments.

Ocean Terminals maintained at New Orleans for docking ships of any length or draft.

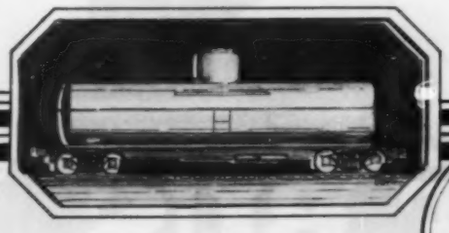
Write Us for Detailed Information Regarding These Services

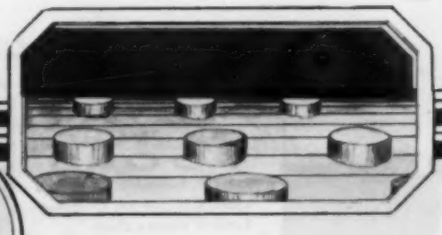
North American Car Corpn.

Henry H. Brigham, President

Petroleum Building, TULSA OKLAHOMA

Chicago, Ill. New Orleans, La. Coffeyville, Kansas





For a fast, safe, economical tong that is strong enough for the heaviest Rotary work—the LE BUS has proven itself under the most severe tests

Write for particulars

LE BUS PATENTED OIL WELL TOOLS

LeBUS Automatic Cathead
LeBUS Slipsocket Overshot
LeBUS Eureka Tongs
LeBUS Breakdown Post
LeBUS Bottom Hole Plug
LeBUS Outside Drill Pipe Cutter
LeBUS Inside Pipe or Casing Cutter

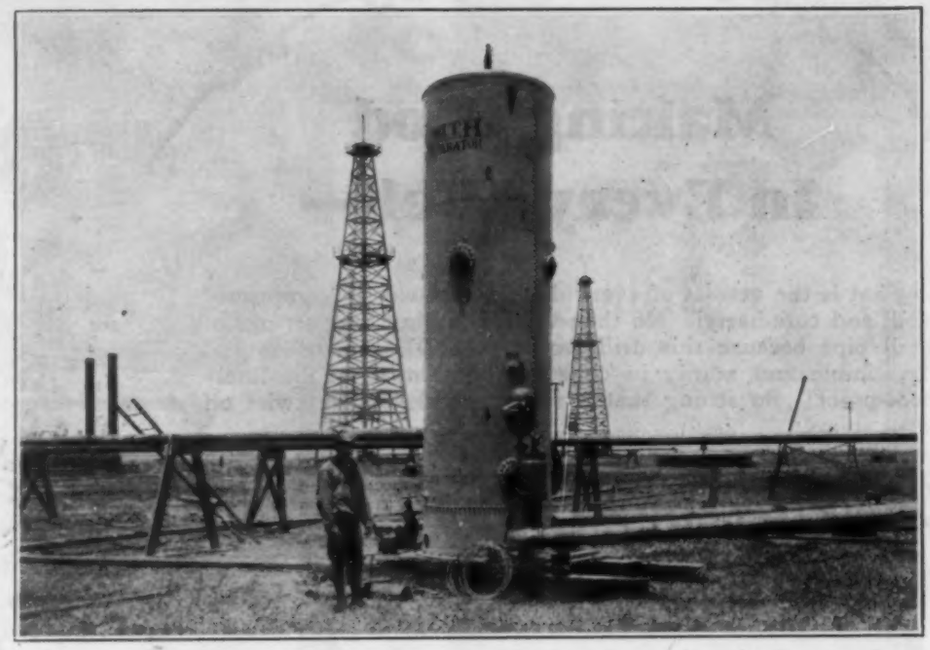
AT YOUR DEALERS

MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

Say you saw it in The OIL WEEKLY



A Smith Oil and Gas Separator handling 6,600 barrels of oil and furnishing gas to fire 22 boilers. At Spindletop, of course.

At Spindle Top

Spindletop has come back. Her big wells are again the talk of the Industry.

But today the wastes of olden days are converted into profits through the use of modern equipment and modern methods.

At Spindletop Smith Oil and Gas Separators are on the job, conserving the oil in the stock tanks at casing head gravity—sending the gas to the gasoline plant or to the boilers for fuel or to the pipe lines—reducing the ever present fire hazard to the minimum.

On your production a Smith Oil and Gas Separator should have an opportunity to prove its money-making ability. The test is the only convincing argument.

Write us for our new catalogue.

SMITH SEPARATOR COMPANY

Tulsa S *Okla.*

New York Office:

Export Representative:
Oil Field Equipment Co.,
30 Church St., New York

Cable Address:
"Oilfields", New York

California Office:

2039 East 38th Street,
Los Angeles, Calif.

London Office:
Perkins MacIntosh Petroleum Tool & Boring Co., Ltd.
25 Bishopsgate
Cable Address: "Oleborers"
London

Texas Offices:
924 Post-Dispatch Bldg.,
Houston, Texas

1503 West Myrtle St.,
Fort Worth, Texas

Say you saw it in The OIL WEEKLY

Making Good In Every Well—

—That is the verdict of every driller who uses this improved drill and core-barrel. No time wasted pulling long strings of drill pipe because this drill works INSIDE the drill stem! So simple and sturdy in construction that it is absolutely fool-proof! So strong that it stands shocks which twist off drill stems.

Two Recent Accomplishments

—In the Somerset field, this Drill made 1000 feet of hole in 4½ DAYS, when the best record with ordinary bits had been 12 DAYS.

—In the Panhandle "red bed" (the meanest formation in Texas), this Drill eliminated $380.25 worth of "sharpening" costs, and SAVED 5 DAYS of expensive drilling time, in drilling a test well against ordinary bits.

Can You Afford to Overlook Such FACTS?

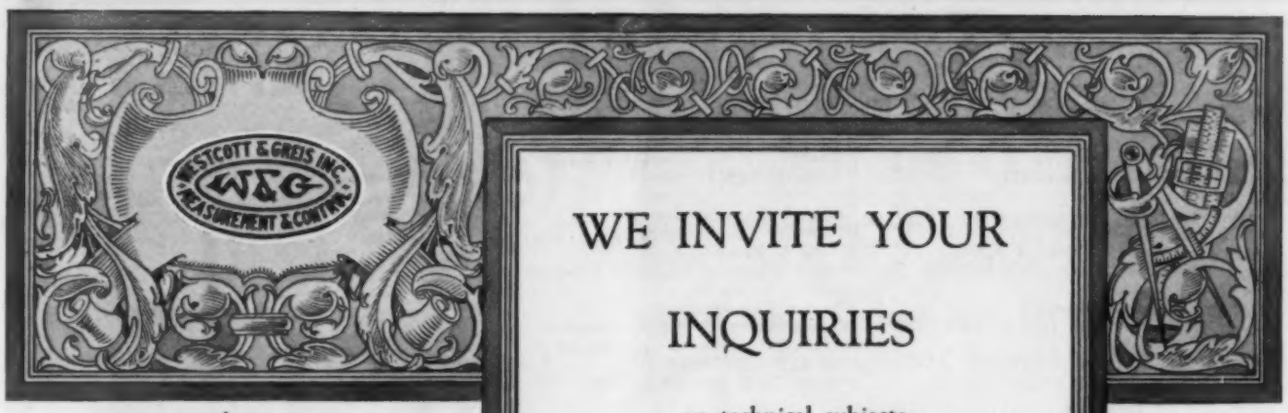
THE STANDARD COLLAPSIBLE ROTARY DRILL AND CORE BARREL

Write for Information and Prices

O. M. CARTER

206-7-8 SCANLAN BLDG. HOUSTON TEXAS

W. T. HILTPOLD SALES AGENTS T. P. HEWITT



WE INVITE YOUR INQUIRIES

on technical subjects

pertaining to

MEASUREMENT and CONTROL and CONSERVATION and SAFETY PROBLEMS

Every member of our engineering staff is especially fitted by years of actual experience and association with the Oil and Gas Industries, to capably handle any problem which you may submit for solution. Feel free to call upon us, at any time, without obligation.

Products Manufactured and Distributed by

Westcott & Greis, Inc.

WESTCOTT ORIFICE METERS

METRIC IRON-CASE METERS

LIQUID SAFETY VALVES and companion line of tank equipment

MERIAM MANOMETERS and companion line of Meriam Products

CHAPLIN - FULTON high and low pressure regulators

MACDONALD 2 Lt. 3 diaphragm Meters equipped with 4 purging cocks for laboratory and charcoal testing.

DAVIS SUPERSENSITIVE RELIEF VALVE AND CASINGHEAD REGULATORS

BRISTOL'S CHARTS AND RECORDING GAUGES

KREB'S LEVELLING SADDLES

Complete stocks of orifice meter repair and replacement parts.

The technical man is important to the Oil and Gas Industries. Through his broad knowledge of operating situations, he is able to suggest economies that mean substantial savings to operators, and the promotion of a more ideal condition throughout the Industry.

Savings, in time, labor and money, are important to you; consult our engineering department the next time you are faced with a particularly intricate problem regarding the operation of your measuring and control devices, or your conservation and safety equipment.

WESTCOTT & GREIS, Inc.,

Dallas TULSA Los Angeles

Westcott and Greis Inc.

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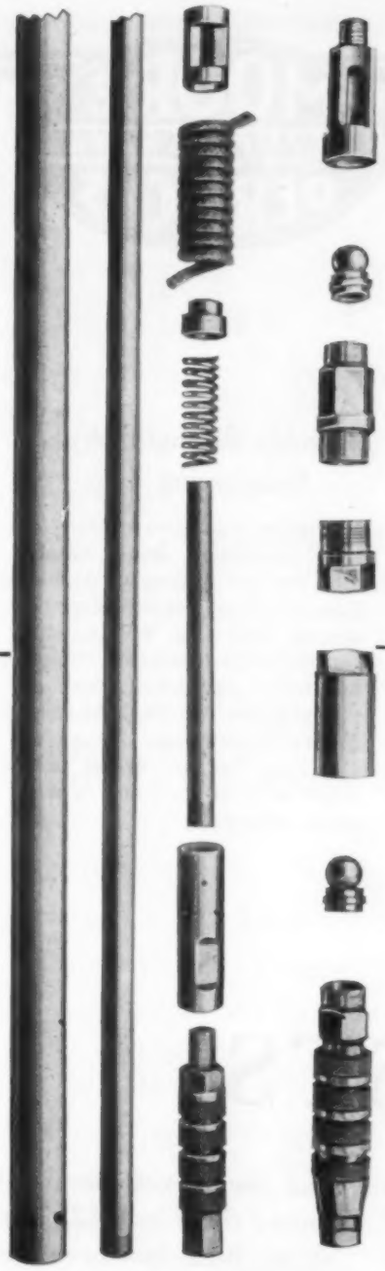

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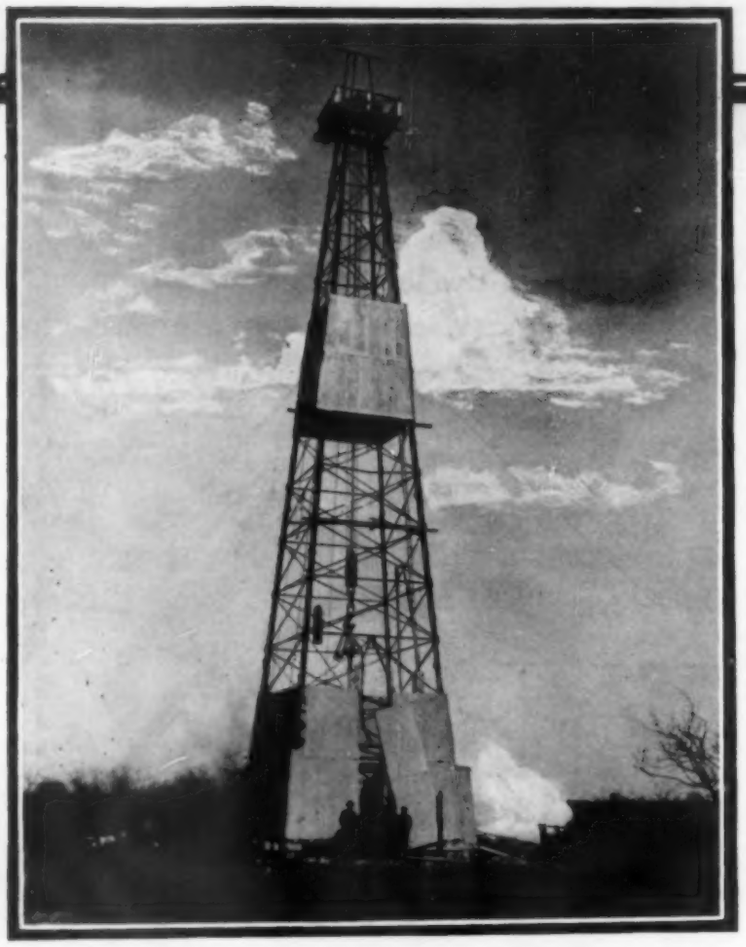

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September 24, 1926 Volume 43, Number 1

The OIL WEEKLY

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Published Weekly by Gulf Publishing Company, Inc.

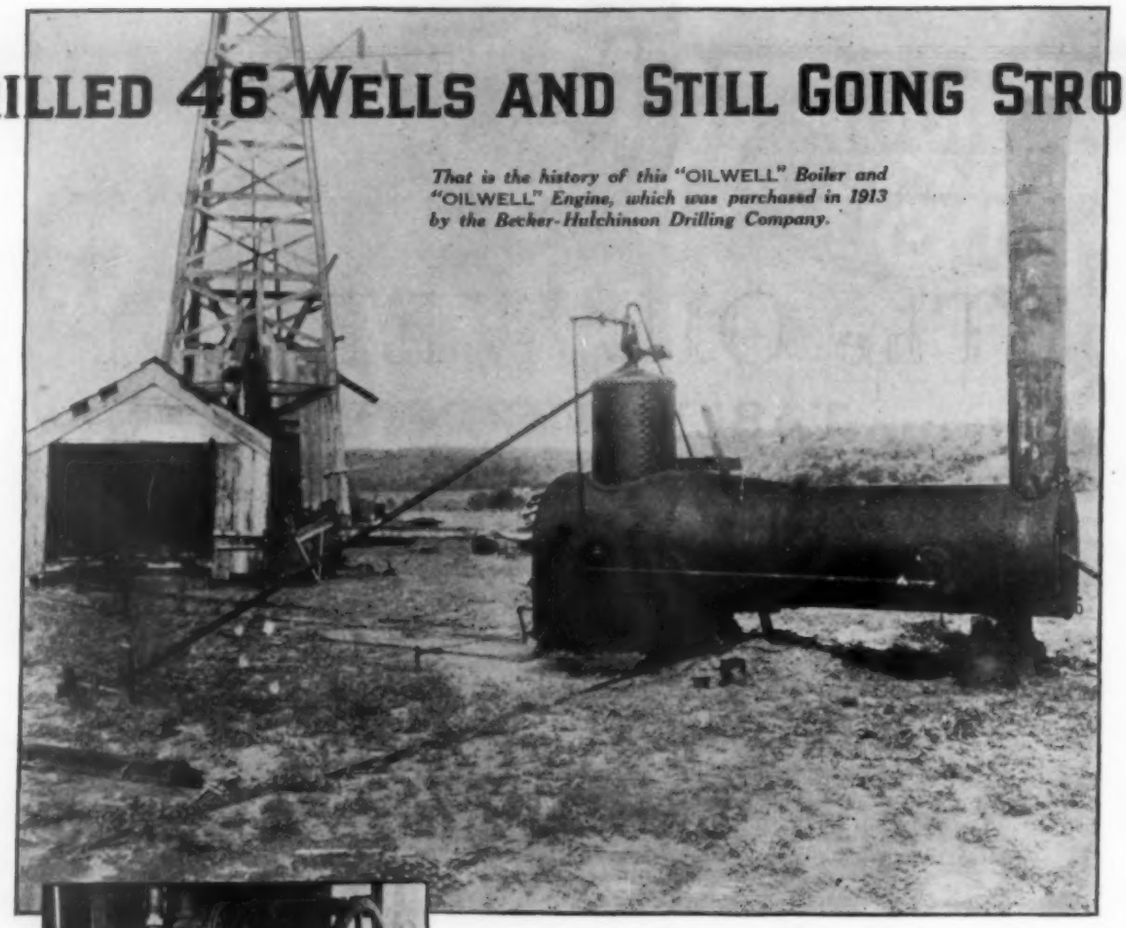
Copyrighted, 1926

R. L. Dudley, *President;* A. L. Burns, *General Manager;* Spencer W. Robinson, *Editor*

Office of Publication: 1716 Dallas Avenue, Houston, Texas.

NEW YORK: Room 832, 250 Park Avenue, R. P. Swinsky, Manager. PITTSBURGH: 2201 First National Bank Bldg., W. W. Pigue, Manager. CHICAGO: 476 First National Bank Bldg., O. R. Waller, Manager. LOS ANGELES: 1201 Haas Bldg., Wm. V. Gross, Manager. TULSA: 215-16 Atco Bldg., J. F. Carter, Jr., Manager. FORT WORTH: 203 W. T. Waggoner Bldg., H. H. King, Manager. Issued Friday of each week. Single copies 10 cents. Subscription price, Domestic $1.00 a year, Foreign $2.00 a year. Subscriptions restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

DRILLED 46 WELLS AND STILL GOING STRONG



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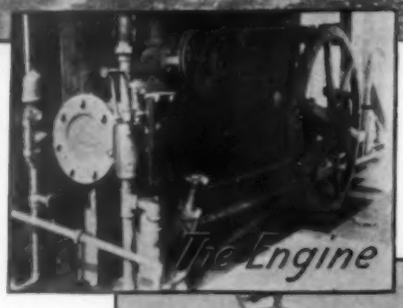

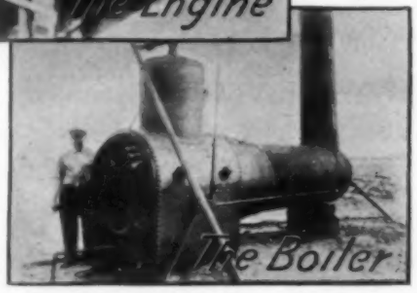

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Crane-Upton County Gets Cut Along With Panhandle Reduction

Also reduce runs from flush area; some additional oil taken from Panhandle producers

By Kent Ridley
Staff Representative

MAJOR buyers are not so keen for new connections in North and Central West Texas as they have been for some weeks past, which might be taken as evidence of a seasonable weakness in the crude market, Nothing yet develops, howveer, to indicate that a price cut is immediately pending, although the points of inaccessable overproduction in this area have received drastic reductions. However, these buyers are not turning away any oil, and in the Panhandle the Magnolia has revised proration to in a measure relieve some of the smaller operators by giving them more current funds.

Independent refiners are not paying premiums for high gravity oil, the tendency being to run lower gravities because of the unsatisfactory gasoline market. The latter has not been helped by recent storms which have been general over a large part of the best consuming territory, and in some cases of such severity that traffic will be affected for some time to come. How weak is the gasoline market, is shown by the effect of an erroneous report of a pending price cut last weak by a market quotation agency. On the strength of the foundationless report that the Indiana company would reduce tank wagon a cent on last Friday, much gasoline was sold by refiners at shaded prices in anticipation of the cut affecting the refining end.

Gravity Price Adjustment

Conditions in the gasoline market during the season now closing would point to the possibility that when another adjustment is made in prices in the Mid-Continent the gravity schedule will be changed so that the scale will not reach so high. Developments in cracking are changing some ideas on the value of high gravity gasoline, and the lower ends from the refinery have been more favorable in price, anyway.

Under present refinery market conditions, crude oil above 40 gravity bought on the present schedule, is a losing proposition for refiners not having direct outlet for the finished product through marketing organizations of their own. Premiums paid in other years for the lighter crude were a big influence in bringing about the gravity schedule in the beginning, and it is natural that the elimination of this competition will incline the larger buyers toward grouping the higher gravities of crude in one grade when a new price schedule is arranged. With the gasoline market in its present weak condition and no relief in sight, elimination of the higher gravity postings are more than likely.

Gasoline is being offered now at 10½ cents and some sales are being made at 10¼ cents, with many saying that the price will go below 10 cents shortly. Fuel oil is holding up pretty well, and kerosene is tending downward just at this time but can be expected to react up again as soon as certain buyers, who are holding off, come in with their purchases on the low market.

A marketing problem somewhat similar to that now being experienced by operators in the Texas Panhandle is confronting the producers in the Crane-Upton County district in West Texas, where about 7000 barrels of 29 gravity oil is being produced daily. The Crane-Upton crude price was given a 40-cent reduction on all grades effective 7 a. m. September 15, by the Kay County Gas Company (Marland's buyer), and Humble announced a few days later that the lower price would prevail on all of its purchases in the district, although Humble has not officially posted a price covering this area, pending the completion of its combination eight and ten-inch line from the Big Lake field, a distance of about 40 miles.

Reduce Runs

Along with the price reduction both Marland and Humble have cut down on their crude takings in the Crane-Upton district, and the former is holding some of the larger producers to about 1000 barrels daily. This move amounts to a partial curtailment of crude runs, and no other buyers are serving the district, although both Gulf and Texas are erecting storage preparatory to making use of tank car loading racks for disposing of their own production.

Since most of the Crane-Upton crude tests a fraction above 29 gravity, the prevailing price is now $1.00 per barrel at the well. The reduction in price was brought on by the competition of cheap priced oil in the Panhandle district, where 37 gravity and above has been selling in spot quantities at $1.25 per barrel at the well with a few sales being recorded at a flat price of $1.00 at the well. The Crane-Upton crude is credited with offering more than 20 per cent gasoline when skimmed, but is not troubled with salt settling out when refined, although it carries a higher sulphur content than the Panhandle crude.

Panhandle Peak Production

The Texas Panhandle district reached a new peak level in production during the past week, with a daily average of 120,870 barrels from 427 flowing, swabbing and pumping wells, and will probably go to a higher figure on the next report, as increased tank car shipments and new steel tankage facilities permits the completion and shooting of many of the tests that have been shut down on top of the pay in Hutchinson County. Gulf started tank car shipments from Panhandle last week, and is now moving between ten and fourteen thousand barrels daily, with the oil arriving from the field through its eight-inch carrier. This new outlet has enabled Gulf and the Gulf-Cline and Panhandle Refining Company to start drilling in more than a dozen tests since the close of last week. Other major operators are likewise receiving new steel storage in greater quantities, and the high point of production is not yet in sight.

Magnolia has altered its restrictions on crude purchases since posting the reduced price schedule on crude in Hutchinson, Carson and Gray counties so that operators will receive full payment on all oil turned to Magnolia to the extent of 1000 barrels daily, then the payments are to be restricted to about 50 per cent of the quantity to run above 1000 barrels, with the remaining half going to storage at 3c per barrel monthly. This plan enables the small operators to have a steady income in order to finance drilling and field operations. Magnolia is running about 10,000 barrels daily, and is not soliciting new connections in Hutchinson County.

Panhandle Price Cut

Effective Wednesday morning, September 22, the Humble Oil and Refining Company changed its method of buying Panhandle crude and annouced a reduction in the price of Hutchinson and Carson County oils. The new posting shows no change in the gravity basis or price on Gray and Wheeler Counties but the company is paying a flat price of $1.25 a barrel for all Hutchinson and Carson County oil, having eliminated is gravity schedule for these crudes.

In making the readjustment the company stated that its action was necessary due to the company's inability to secure a market outlet for the oil and that runs from the district have been going to storage.

Spindletop Deep Sand Field Emerging from Boom Class

Small plot area is practically drilled up and large untested area will be worked systematically

By Wallace Davis
Staff Representative

Beaumont, Texas.—Spindletop's new deep sand extension, barring any further discoveries in sections that are blocked for competitive drilling, is gradually emerging from the boom class into a state of rational development. Substitution of steel derricks for hurriedly constructed wooden derricks, installation of electric pumping units as well as compressed air stations for aiding flowing wells, construction of treating plants, deepening of wells in depleted sands and reworking of sanded wells completed during the rush of two months ago give evidence of such a change.

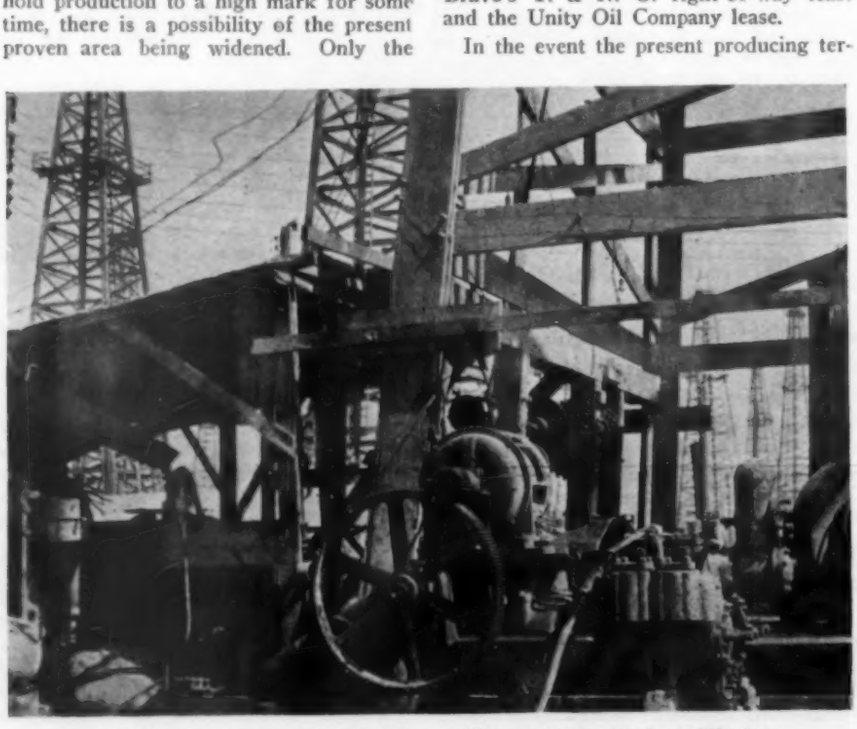
Production in the new extension is a long time proposition. The discovery of prolific pay at 4244 feet by the Gulf Production Company early last week offers new possibilities of no mean consequence. This well made an initial yield of 4200 barrels pinched in to a ¾-inch flow and increased to 12,000 barrels when the flow was allowed to increase. After two days flowing under the increased rate it began making four per cent salt water, was again shut in to a ¾-inch flow and early this week was making only 3700 barrels. It gives companies holding acreage only in the present proven territory a chance to redrill the same acreage, which was practically drilled up and which is gradually showing signs of a decline. After the extension's early peak had declined to 86,000 barrels the Gulf's deep producer was the chief factor in bringing the total daily run back to 101,000.

Here's a section of Spindletop looking southwest from the T. & N. O. railroad, which divides the extension section.

Only One Limit Found

Aside from the possibility offered by the deeper sands, which alone will serve to hold production to a high mark for some time, there is a possibility of the present proven area being widened. Only the northeastern side of the field has been condemned thus far, the dome having been outlined in a wide curve bordering on the Gulf's Oakwood lease, the Rio Bravo's T. & N. O. right-of-way lease and the Unity Oil Company lease.

In the event the present producing territory is not widened, drilling for possible big pay will soon be left to a single company—the Yount-Lee Oil Company, which is the only operator at present in Spindletop with proven acreage not yet drilled on. Yount-Lee, with several acres on both sides of the competitive drilling spot still untouched, is marking time, drilling only on locations that might be affected by other companies' production or where offsetting is forced.



Gulf Production Company's Weed 4, making 12,000 barrels from 4244 feet

The third possibility of holding up big production at Spindletop is in the vast stretch of acreage held by the Yount-Lee Company, which loops entirely around the dome. In no part of this block of more than 5000 acres had there been more exploitation work at the time of the discovery than in the vicinity of the new extension. It is in this tract that Yount-Lee is due to start a well regulated drilling campaign when the rush of the present extension is settled. Without competition this acreage will be drilled as the company sees fit, and it is in this situation that the possibility of a long time proposition lies.

Production Falls

Spindletop's daily run at the opening of this week had fallen to 30,265 barrels after the increase due to the Gulf's deep sand discovery had carried it to 101,350 barrels. Yount-Lee Oil Company had again taken the lead with production by companies as follows:

Yount-Lee, 22 wells, 34,151 barrels.

Gulf, 16 wells, 33,704 barrels.
Atlantic, six wells, 11,260 barrels.
Rio Bravo, five wells, 10,850 barrels
Paggi Brothers, two wells, 300 barrels.

Activity in the field included 41 wells drilling, four wells working over and 11 locations, derricks and rigs combined.

Shortly after the above report was made the Sun Company completed two workover wells for a combined initial of 992 barrels. Simultaneously with these completions the Gulf's Jack-Duff extended the field 100 feet to the south on the west side of the T. & N. O. right-of-way with 900-barrels initial. Its depth was 3377 feet, showing the sand to be dipping deeper in this direction, and more than 30 feet of pay was taken in, indicating no thinning out of the sand at this point.

No Waste

Spindletop's new extension field has shown some remarkable performance other than the record made in its vast production from an area of 20 acres During its short period of development that characterized one of the most active booms in the history of the Gulf Coast there was a lack of waste. Pipe lines of five major companies were serving the field in less than a month after production began rising to big proportions. Yount-Lee Oil Company had a tank farm well under way with four 55,000-barrel tanks going up each week within five weeks after the order had been placed. Such well regulated performance made possible the caring for the big production, and held off a break in the market except for a slight cut that naturally came with such increased supply.

In the rush at Spindletop there was not the haphazard methods and makeshift construction typical of former booms. Details of field development were cared for simultaneously with the rush that was forced by competitive drilling. So well were these factors of development handled that today, while the drilling is still in a rushing state, there is a mark of permanency about it. It is not uncommon in the field to see side by side a well being rushed to pay and another less than 50 feet away pumping with an electrical unit set in concrete and housed under permanent shelter. Treating plants have been built by practically every company with considerable production in the field.

Drilling Records

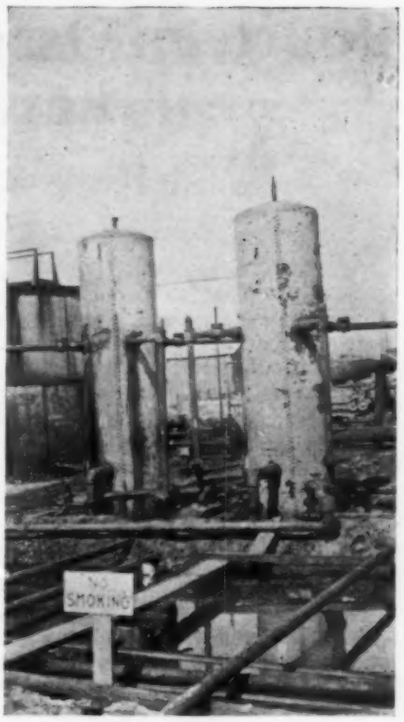
Spindletop broke drilling records during the recent boom. Talbot & Markle, contractors drilling for Rio Bravo, completed the T. & N. O. No. 2 well for 9000 barrels from 2715 feet in eight days drilling time. Electric rigs introduced in the field by the Gulf Production Company completed wells of from 3000 to 3225 feet in 15 days.

Modern methods brought the results that have made the field stand out in its performance. Better equipment at Spindletop today combined with better methods and knowledge of operating, are enabling companies to drill holes to twice the depth in one-half the time required in the early days of the old field. Aside from the use of better built and heavier equipment, several modern methods that have produced better results in both drilling and producing are worth mentioning.

Cementing of casing in the flank sands of Spindletop is rarely used today. A thick stratum of gumbo usually overlying the pay sand has proven a good foundation for casing setting, and has practically done away with the old cementing method, especially at Spindletop, thus saving considerable expense and approximately two days drilling time. Most of the operators in the new extension field follow the practice of setting 250 to 350 feet of 10-inch surface casing and then setting a string of 6⅝-inch casing to the top of the sand. On the bottom of this they set 4½-inch and seal it into the 6⅝-inch unless making a single string well; then the 4¼ is run from the top into the sand.

Controlling of production after completion of the well is one of the greatest assets to present operation seen at Spindletop as compared with the wells flowing through open holes in the early days of the field. Coking down wells with the present method of using the choker to adjust the size of the stream flow, has resulted in comparatively little salt water or sand trouble.

The use of gas separators to conserve the gas and utilize it for boiler fuel is commonly seen at Spindletop today. Aside from electric power, which is being used by the Gulf in three wells, gas is the only fuel used except by an occasional independent company using fuel oil.



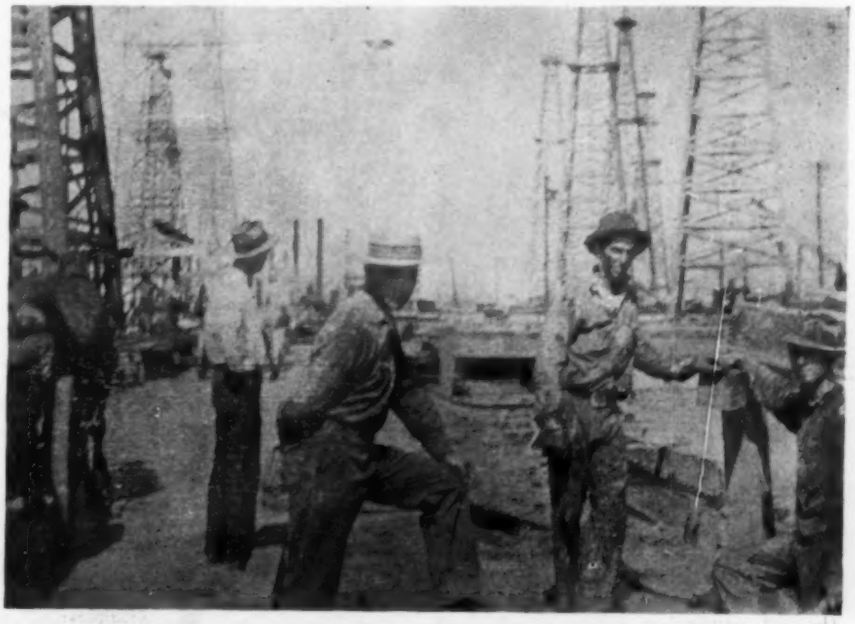
Smith Separators on Rio Bravo's T. & N. O. lease, which performed double duty during the company's flush output in August.

Whistle Signals Increase Drilling Speed

Beaumont, Texas.—Speed is the middle name of E. L. Hughes, driller for Talbot & Markle, contractors now drilling Rio Bravo Oil Company's T. & N. O. right-of-way No. 51 at Spindletop.

In an aid to making hole faster, Hughes has a steam whistle attached to the rig with a cord running to a derrick brace. Two blows means to start the hose and one blow to cut off the water. Hughes is getting perfect cooperation. When the clamp hits the rotary, B. F. Hughes, roughneck, and son of the driller, yanks the cord twice in quick succession and by the time the elder Hughes starts backing up for another joint the water is shooting, with a floor man guiding the hose. One a single jerk of the cord the fireman cuts off the water.

Hughes made 60 feet of hole in 20 minutes on the No. 51, drilling below 2100 feet in sand and boulders.



View of new Spindletop looking east from the Gulf's deep sand producer

Fourteen Osage Sale Tracts Join Production; Few High Bids Expected

However interest insures large crowd at auction at Pawhuska on September 30

Tulsa, Okla.—Despite the fact that no leases to be sold at the Osage auction of September 30 at Pawhuska is scheduled to elicit any high bids, interest in the affair is such that the event is sure to draw a big crowd and much buying is anticipated.

Ten tracts adjoining producing leases at Burbank and four adjoining production in the newer Fairfax pool to the south offer the opportunity for the higher prices for the sale.

The four better looking tracts are four on the northeast side of the Burbank pool. No. 182 is the northeast quarter of section 7-27-6; No. 183 is the northwest quarter of section 7-27-6; No. 194 is the northwest quarter of section 1-27-6, and No. 195 is the southeast quarter of section 1-27-6.

To the southeast of Burbank production are six tracts:

No. 176 is the northwest quarter of section 20-26-6.

No. 177 is the southwest quarter of section 20-26-6.

No. 178 is the southwest quarter of section 22-26-6.

No. 179 is the northeast quarter of section 28-26-6.

No. 180 is the northwest quarter of section 28-26-6.

No. 181 is the northeast quarter of section 29-26-6.

Of the four tracts around production in the newer Fairfax pool, three adjoin the quarter section held by the Prairie Oil & Gas Company. The first well was completed there and the trend of production seems to be north and east, across the tracts, which are:

No. 172, the northeast quarter of section 21-25-6; No. 173, the northwest quarter of section 22-25-6; No. 174, the southwest quarter of section 22-25-6.

The fourth tract to be sold around the Fairfax pool is No. 175, the northwest quarter of section 27-25-6. This tract does not seem likely to bring spirited bidding as it is south of what appears to be the trend.

The Gypsy Oil Company is drilling a wildcat in the northeast quarter of section 27-25-5. Four tracts two miles north of this are to be sold. Another Gypsy wildcat is in the southeast corner of section 36-25-5.

Four miles west of the southern end of the Burbank pool the Barnsdall Oil Company has a wildcat drilling in the northeast corner of the southwest quarter of section 6-26-5, while the Sinclair Oil & Gas Company is drilling in the northwest corner of the northeast quarter of section 6-26-5.

Another Sinclair wildcat is going down in the northeast corner of the northwest quarter of section 5-23-7.

These are the outstanding wildcats of western Osage County, none of which is showing for oil.

Mid-Continent Association Names Committees to Work Out Osage County Gas Tangle

Tulsa, Oklahoma.—With the naming of four subcommittes, the legal committee of the Mid-Continent Oil & Gas Association has begun investigations, looking toward the clearing of matters of concern to the oil industry.

One of these questions concerns the matter of gas rights in Osage County. This question is pending before the Department of the Interior., having been taken there by committees representing the Osage Oil & Gas Lesses Association. Early this year, holders of oil rights sought to reintroduce gas from their leases back into the wells under pressure, for the purpose of increasing output.

Holders of gas rights countered with the contention that the gas belonged to them. In many instances, two different concerns or individuals hold the oil and the gas rights to a lease. This led to numerous conferences and the naming of committees, with the result that the question was put before the Department of the Interior.

All along, however, many have believed that the question must finally be settled by a suit to determine the ownership of gas for reintroduction into oil wells.

The four subjects set forth and the subcommittees for each follow:

1. What should be the attitude of the oil producing industry with reference to rules and regulations controlling the practice of introducing gas, air or water to restore pressure in the Mid-Continent field. Are such regulations necessary? If so, to what extent may they be prescribed?

Subcommittee: Chairman, James A Veasey, Carter Oil Company; W. C Franklin, Tidal Oil Company; W P. Z. German, Skelly Oil Company.

2. What may be done to clarify the law with reference to the reciprocal rights and duties of oil and gas operators in the Osage nation? Should the act of March 3, 1921, be amended to allow an appeal to either party and designate the procedure and the forum or court to which such appeal may be prosecuted.

Subcommittee: Chairman, J. C. Denton, Mid-Continent Petroleum Company; J. H. Brennan, Barnsdall Oil Company; Burdette Blue, Indian Territory Illuminating Oil Company.

3. It having been suggested that the state of land titles in Oklahoma requires the amendment of curative statutes and statutes defining the liability of operators and purchasers of oil, this subject was referred to the following committee:

Sub-committee: Chairman, Jas. B Diggs, Gypsy Oil Company; J. H. Hill, The Texas Company; Alvin Richards, Pure Oil Company. Harry H. Smith, Mid-Continent Association.

4. To define the attitude of the producing industry with reference to proposed federal legislation of pollution of navigable water by oil and salt water from drilling wells.

Sub-committee: Chairman, W. H. Francis, Magnolia Petroleum Company, Dallas; J. S. Atkinson, Gulf Refining Company, Shreveport; E. H. Chandler, Sinclair Oil and Gas Company, Tulsa.

Standard Gets Extension At Montebello

Los Angeles, Calif.—It begins to look as though the Standard Oil Company of California will be successful in attempting to form a Western Extension of Montebello field in the drilling of its Benedictine No. 1 well.

After having cemented a 11½-inch water string at 3488 feet on strength of a good sand at 3503 feet, the Standard's Benedictine blew in, throwing mud water and oil high in the derrick. A 500-foot extension is practically assured.

While it will be necessary to recement, the Standard is pleased with the outcome and has located a well still farther to the west of the field. The second well is located on the Whitehead property. It is being rigged up.

New Weight Indicator Proves Practical Value in Use on California Wells

Gauges weight visibly for driller during operation and makes permanent record of day's work

By George Reid
Staff Representative

THE automatic, recording, weight indicator is one of the most recent appliances perfected for the scientific control of oil field exploration work, with which the minute details of oil well drilling procedure are both constantly indicated and continuously recorded, and through the use of such appliance, engineers, executives, geologists and the driller as well, are furnished with a permanent record of all conditions prevailing and encountered in the boring of the well; information in chart record form which is an actual and positive check against the daily drilling or operating report, is presented for reference.

The automatic recording weight indicator as but recently perfected and fabricated under the patent of W. R. Martin by the Martin-Loomis organization, Long Beach, California, is especially finding favor among producers on the West Coast, because of the accuracy of the instrument, the "fool-proof" qualities and simplicity of its design, and the value of the results in information secured through the detailed data recorded by its operation.

The new weight indicator in operation discloses to the driller and others interested, the weight of the tools and drill pipe, etc., pulling on the hook, such weight being indicated on both the gauge and the chart on the clock-work recording instrument.

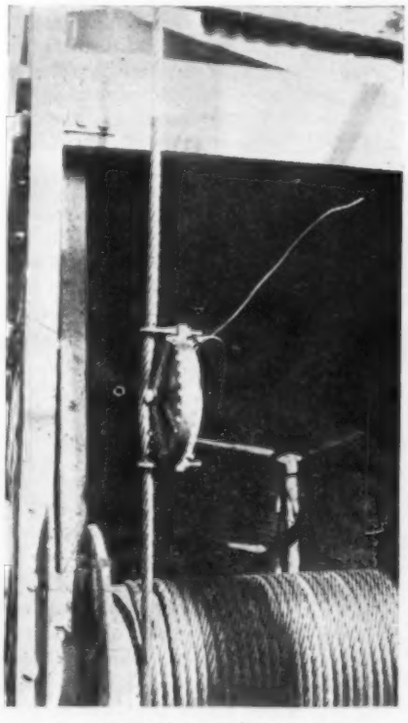


Fig. 1.—Weight indicator showing deflection of cable, dead line, when appliance is in service.

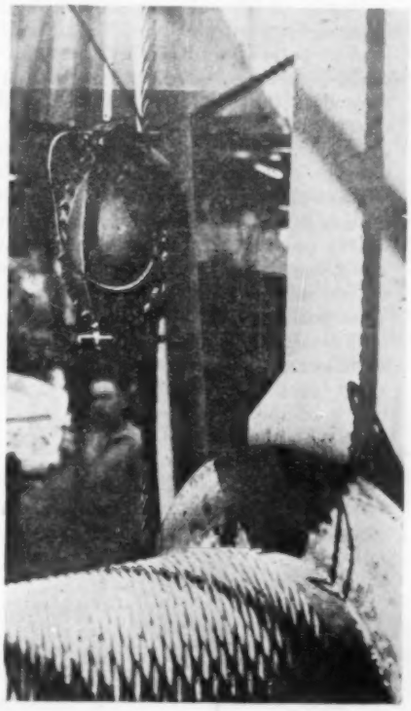


Fig. 2.—Back of automatic recording weight indicator, showing construction of case and copper lines leading to gauge and recording instrument.

Several instruments have been perfected for the purpose of "weighing oil wells," employing various principles in their operation. Some types of machines have been employed which were accentuated by the "squat" of the derrick when weight was put on the hook. Temperature changes influenced results to a marked degree, and it was found that virtually all derricks "squat" differently.

Another type of instrument sought to record or indicate the amount of weight, work, and other conditions through the measurement of the quantity or pressure of steam used, taking as its source the action of steam in the steam chest. Since the steam throttle is usually thrown wide open or nearly so for short intervals in pulling, lowering, or, at times, drilling, it is said that a wide open throttle was all that was recorded by the instrument. Numerous other developments along these lines have been presented from time to time, but seemingly with indifferent success, for various reasons.

How Constructed

Before going into the discussion of the indications and chart records given through the use of the Martin-Loomis appliance, it is in order to describe the construction and principles of operation of the device.

In construction and operation the weight indicator embraces a different application of the diaphragm principle; making it possible of construction without employing a single working part—except, possibly, the slight deflection of the diaphragm. Note in Figures 1 and 2, illustrating the indicator in actual use, that the appliance is small, compact and sturdily constructed—the cases housing the rubber diaphragm being of bronze and tightly joined together by 20 nickel plated bolts, this type of metal being used to avoid rust, corosion, etc. The cases, of necessity, are milled and finished to precision and accuracy in dimensions, especially those parts which force the deflection of exactly one-half inch in the cable to which it is attached. The diaphragm appa-

Fig. 3.—Gauge used in conjuction with weight indicator placed in easy view of the driller.

ratus is firmly attached to the cable (dead line), through the use of "U" bolts; the line passing over a grooved extended projection which presses against the 3/16-inch five-ply, rubber diaphragm. The diaphragm is also protected from deterioration by a bronze concave plate which fits snugly over it. The hollow vessel formed by the concave bronze back case and the diaphragm is filled with water, as are the two small copper lines leading from the appliance to the gauge and the recording instruments—about one quart of water being necessary. (Where cold weather threatens to freeze the water, alcohol or other anti-freeze solutions are added).

How it Works

As previously stated, the appliance is attached to the dead line, and any weight on the hook causes the one-half-inch deflection in the line to straighten slightly, thus forcing the diaphragm inward, resulting in pressure being exerted on the enclosed water, and the water under pressure activates the mechanism of the pressure gauge and the recording instruments. This briefly describes the simplicity of the construction and the working principle involved.

Figure 3 shows the standard type of gauge employed, American, in this instance—not registering because it was necessary to stop work while taking the photographs.

The sensitiveness, however, of the instrument is remarkable and established to a fine degree; the very slightest pull on the cable or release of weight, being instantly indicated on both the gauge and the recorder. Calibration by the Olsen testing machine, Union Tool Company, Los Angeles, California, running to 50,000 pounds direct, indicated that the sensitiveness and accuracy at such a weight was just as positive as at 500 pound. The diaphragm case unit weighs 35 pounds. The recording instrument is usually located in the belt house on a separate post to avoid most of the vibration concurrent with drilling operations.

Calculation of Weight

Working, as it does, on the dead line, it is necessary to calculate from the reading of the pressure gauge in pounds pressure, to obtain the actual number of pounds weight on the hook. The company furnishes curves and data for engineering work along these lines which have been prepared on the basis of actual known weight of the tools, pipe, etc., in pounds, which makes possible the attaining of true weights for accurate knowledge, by simple reference to the plotted curve. This work has been carefully prepared and checked by well reputed engineers, and the results are accurate to within one per cent. The location on the dead line, however, makes it necessary to figure or calculate on the basis of the number of lines used. Where the curve and chart is used in calculating, the following example is typical of the method:

"Load in pounds one-half-inch deflection on a single line—To find total load in pounds, multiply by the number of lines used—4-6-8-10-12—as the case may be. Find load in pounds on the chart, as indicated by pounds pressure on the gauge, and multiply by the number of lines. Example, total load shows 40 pounds (pressure indication on gauge) load pressure. This shows 11,000 pounds on chart. Multiply by six lines used gives 66,000 pounds, which is the total load on the hook. This will be 13 per cent less than actual weight of pipe if hole is full of clear water, 17 per cent less with average mud and 19 per cent less with heavy mud."

How Driller Uses It

For practical drilling purposes the formula of one pound pressure on the visible gauge on the derrick floor means about one ton of weight on the hook; which calculation is near enough for practical purposes. The gauge indication to the driller is mostly of value because of, or through, the position of the hand—being comparative only. If the driller is forcing the drill too fast the indicated pressure is reduced and he lets up accordingly if need be. If he is stuck and pulls out—up goes the gauge hand. It is no unusual sight to see the driller closely watching the gauge for guidance, depending no more on the feel of the brake for knowledge of conditions at the bottom of the hole. With this indicator before him the driller soon becomes intimately acquainted with its reactions, and when he hits a hard formation, he takes it easy, is cautious, and instead of glancing off at a tangent, drills a straight hole. Much assistance is rendered by the appliance in coring, and recently in coring a well at 4820 feet with a weight indicator for guidance, 12 feet 6 inches of core out of a possible 13 feet was recovered, which is an excellent record for the depth at which the work was done.

Aid in Fishing

The automatic weight indicator is especially adaptable to informative application when the troublesome fishing job occurs, for the indicating hand of the pressure gauge invariably tells of the true state of affairs at the bottom of the hole, thus not only reducing and minimizing the fishing hazard, but assisting in the recovery of lost tools, etc., by indicating even a slight increase in weight when the fish is picked up.

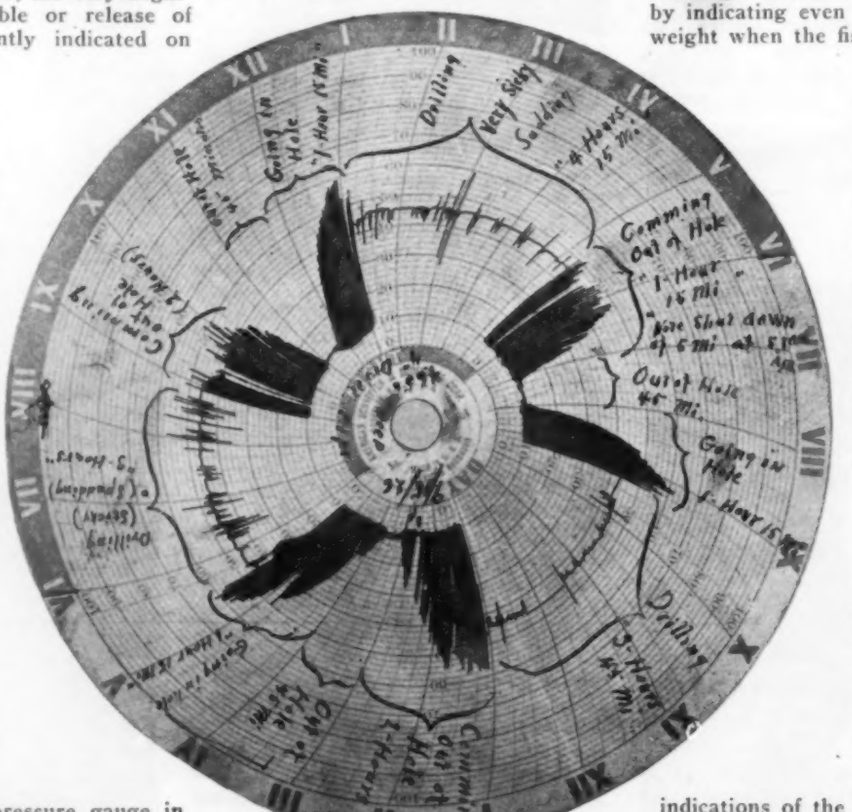


Fig. 4.—Chart showing details of 24-hour day drilling record as recorded through weight indicator.

Recently at a certain well, a 9½-inch roller type bit was lost in the hole and the difficulties presented in the "fish" job are of unusual interest. Coming out of the hole the bit hung up and in jarring to loosen, the pin broke off at the top of the reaming section of the bit and let drop the stub of the bit, about three feet long. As the bit fell some condition, probably a cave, caused it to turn over, with the result that it fell to the bottom of the hole—4726 feet deep, with the rollers or large end up—"upside down." There was only one procedure; and the steady accurate, continuous indications of the gauge hand actuated by the water under pressure in the automatic recording weight indicator—which was then installed—made it pos-

sible to mill off about 50 per cent of the hard steel rollers, down to where the bit was more or less solid, then to drill a 2½-inch hole into the main water course of the bit—with the absolute amount of weight on the bit known at all times. After drilling the 2½-inch hole, a tap was screwed into the hole, with the indicator showing with each turn of the rotary table just how the tap was threading in the hole. After securing the tap in the bit (fish) the driller took a pull on it—and pulled a total weight of 90 tons without budging it—and only after two and one-half hours of jarring was the bit finally loosened up and brought to the surface, "upside-down."

The record permanently produced in chart form for reference and checking purposes is one of the most important features of the weight indicating appliance. To properly present the value of the chart record a description of one 24 hour day's work is presented as recorded by the recording weight indicator. Figure 4 illustrates the chart of a certain drilling well on September 15, Long Beach field, drilling with four-inch at about 4655 feet. Interpreting the inked record for the period of the chart it is found that at 8 o'clock a. m. the drilling crew was, (approximate time):

Going into the hole for 1 hour, 15 minutes;
They drilled for 3 hours, 45 minutes;
Coming out of the hole for 2 hours;
Out of the hole for 45 minutes;
Going into the hole for 1 hour, 15 minutes;
Drilling-sticky-spudding, 3 hours;
Coming out of the hole, 2 hours.

(Note—That in coming out and in, each long sweep of ink indicates the handling of a separate stand of pipe.)
Out of hole for 1 hour, 45 minutes;
Going into hole for 1 hour, 15 minutes;
Drilling-very sticky-spudding, 4 hours, 15 minutes.

(Note—The longer lines shown where the weight was thrown on the hook—all weights recorded in pounds pressure, same pressures as are shown on the indicating pressure gauge visible to the driller).

Coming out of hole, 1 hour, 15 minutes.

(Note—Shut down for five minutes at 5:30 a. m.)
Out of hole for 45 minutes.

This data is written on the illustrating chart for purposes of detailing for publication.

A study of the foregoing data, or an examination of the chart discloses that a permanent record is made of any detail or happening concerning the drilling machinery during each 24 hour day. The chart shows the actual time consumed in pulling out, the number of stands handled, how long out of the hole, and time consumed going in—thus recording the number of round trips made and the details of the operation. Record is made of the time lost—if any. The exact weight on bottom while drilling is shown, as well as the weight on the hook at all times.

When a new connection is made—the chart receives the record. The amount of time drilled is shown and the amount of trouble encountered in doing so, such as spudding in sticky drilling. Each time the drill is picked up, the weight causes its record to be written in a longer stroke of the recording pen. There is in fact, nothing of any importance that can happen around the drilling rig without a record of that happening being recorded both in pressure or weight and in time.

The chart is of much help to the driller in that it forms a permanent record for his reference, as it records for him anything that his visible gauge indicates for his guidance. The chart is also of value to the geologist and supervising engineer in that it presents a constant check against the type of formations recorded as encountered in the driller's daily operating report.

Wildcat Drilling Boom to Follow Discovery In Jones County, West Texas

By H. H. King
Staff Representative

Abilene, Texas.—An active wildcat drilling campaign will follow in the wake of the Phillips Petroleum Company's wildcat oil discovery in the southwestern part of Jones County, and more than a dozen drilling contracts were signed during the past ten days by companies and small operators in blocking leases in Jones, Taylor, Nolan and Fisher Counties.

Besides the three offsets to the discovery well announced last week as being started by Phillips, Marland Oil Company and the Mid-West Exploration Company, there will be a test started promptly a short distance to the north of the producer by the World Oil Company, while Ed. Landreth of the Landreth Production Corporation has made contract to drill on a lease purchased on the south end of Phillips Petroleum Company's original block.

The Jones County discovery well is located on the Joe Winters farm, section 19, block 19, T. & P. survey, and began showing oil September 6 from sandy-lime pay at 2510 feet, and increased to 1000 barrels of 40 gravity (70 temperature) daily by heads after being deepened to 2517 feet. The flow of oil has been about the same for the past week, and a portion of the production has been diverted to earthen storage, owing to the tank builders not being able to assemble additional tanks as fast as the well fills that already erected.

A combination three and four inch line was completed early this week from the well to the nearest railroad point at Trent, located about three miles south of the well, and the oil will be shipped out in tank cars to Prairie Pipe Line Company, which will probably be one of the first carriers to extend over to the new field when production justifies.

The steady performance of the Jones County discovery well has induced many of the major companies to step in and buy leases in all directions from the producer, while the small operators and companies got the jump on most of the majors. Phillips Petroleum Company held about 3000 acres around its well, and doubled this shortly after the well came in, while Gulf Production Company also bought on all sides of the original block of leases having purchased about 850 acres in scattered pieces.

Lease Prices

Lease prices during the past week ranged from $150 to $200 for acreage lying within a mile or two of the producer, and royalties were selling higher in proportion, with a quick turnover being made by the brokers that got in early and tied up the stuff. The performance of the well from a production standpoint, and its remoteness from other producing areas lying to the east in Shackelford and Callahan Counties, attracted hundreds of oil company representatives and brokers from distant points. Hotels at Abilene, Sweetwater, Merkle and other points within driving distance of the discovery well were crowded all last week with oil men.

Supply houses are already making plans to enter the Jones County area with branch stores when business justifies, and most of the concerns are planning sites at Trent, which is located on the T. & P. Railway, and the nearest shipping point to the field, while a new townsite is also being proposed near this point, with prospects of hotel accommodations being provided in the near future.

The extent of the oil producing area, and its productiveness is problematical, while about two months will elapse before offsets are drilled to the discovery well, since the numerous water sands encountered above the pay horizon require considerable underreaming. The nearest marker for the geologists and operators to use in correlating with the discovery well is the old Sears farm wildcat, located about three miles to the northeast of the oil well. The Sears test showed oil in the same horizon, but failed to make a commercial producer, and is now considered as a likely edge well of the structure.

No Rule for Controlling Wild Gassers—Each One Is Different

An interview by A. R. McTee with Dr. M. P. Cullinan

VISITORS to the Laredo district will probably meet, somewhere on their rounds, a kindly looking old gentleman with a white beard, a goatee, and a crutch. He also drives a Ford coupe, and is apt to be met in any of the fields for he makes them all from time to time. Those who have seen him will already recognize Dr. M. P. Cullinan, veteran gas man of Southwest Texas.

The Doctor is a familiar figure throughout the Laredo and Mirando territory because of his activity in fighting gas blow-outs. He has had some part, generally a major one, in conquering every wild gasser in the history of the district, and because of their accomplishments in this connection, he and his right-hand man, "Curley" Newton, are always asked to lend a hand when one of the wild ones gets loose.

When we met the Doctor he had just come from the Johnson-Detray well in the Carolina-Texas field. His shack where he spends much of the time is on the slope of a chapparal covered hill overlooking the site of this well, and it was here that we, by chance, found him. We had called at his office in Laredo several times, but had been told that the Doctor was away and that there was nothing definite known about the time when he would return. We were discouraged at this information and had given up hope of seeing him. But on our trip through the fields we stopped at an advantageous point to snap a picture of the Carolina-Texas area, and the Doctor drove up. The goatee, the crutch, and the Ford identified him. Soon we were seated comfortably within the shack, enjoying the cool breeze and some water while we chatted with the Doctor.

"I'm sorry you didn't get here five minutes sooner," he said, "for we just 'pulled the derrick' down there," and he pointed to the Johnson-DeTray well, a gasser which had been blowing wild for nearly three months. When asked how he and his helpers succeeded in killing the well, the old gentleman replied: "My dear sir, the Lord did it for us this time; the well finally bridged over and killed itself."

DR. M. P. CULLINAN

During most of the time when this well was blowing, Doctor Cullinan was on the job. He had a platform built out over the crater that had formed, and from this point directed the work of those trying to bring the well under control. The Doctor's interest in gas blow-outs dates back to his boyhood days. Early in his teens he was astounded and terrified by the Big Moses well in West Virginia, one of the notorious gassers that went wild, and from that time on he was determined to help do something to prevent the enormous waste that follows every blow-out.

Years later he moved to Southwest Texas where blow-out history has been made. He had his chance and took it. For nearly 20 years he has seen the wild ones come and go. He knows all the details connected with them, and he and his men have helped kill the most of them.

There have been about a dozen phenomenal blow-outs in the Laredo district. A few of the wells have made as much as 75,000,000 cubic feet and blew with a rock pressure of nearly 1000 pounds. To do anything with such a well requires the utmost of human ingenuity, bravery, and endurance. One of the big gassers got away from the operators in the Cole field, in 1924, caught fire and of course this increased the hazard of trying to kill the well.

Doctor Cullinan spoke of this well especially, describing it as perhaps the most spectacular of all he had ever had anything to do with.

"Staying on the job," the Doctor says is the important thing in fighting a gas well. Nothing definite can be set down about how to fight a gasser because no two of them ever present the same problem. But the Doctor believes every wild well can be saved if those who are fighting it persevere. He says he always tries to confine the gas to one point, if at all possible, and he avoids the use of cement for he believes this to be a handicap in a great many more instances than it is a benefit.

The Doctor uses his own crew in fighting the gassers. His men know his methods and their success under his direction is far-famed. The Doctor never accepts pay for his work and all his effort in fighting wells is without remuneration. He delights though over the times his "boys" have been "remembered" by well owners.

Dr. Cullinan's title was earned by pains-taking labor. He is an M. D. and also has an academic degree from Ohio State University. Before coming to Texas he practiced medicine, but has given it up now. Occasionally he will prescribe for and look after one of his men, in an emergency.

One does not have to wonder about the Doctor's success. A close look at him will suffice to explain: His countenance is marked by confidence in himself, founded on long experience.

Kansas Wildcat Making 50 Barrels Oil

Tulsa, Okla.—Reports of owners of well of Propp and others on Propp Farm in the southwest corner of the northwest of the southwest quarter of 2-19-4, Marion County, Kansas, good for 50 barrels in chat topped at 239[illegible] feet. This is a wildcat well.

Hunton Lime Variations Cause Some Anxiety Over Future Seminole City

However more drilling will be required to determine and 200 wells will soon be going down

By Grady Triplett
Staff Representative

Tulsa, Okla.—Apparent variation in the Hunton lime at Seminole City is causing some anxiety over the future of that field. Until further drilling is complete, it will not be possible to determine the status of sub-surface conditions, so the rush of drilling goes ahead, with 181 active wells in the area now and more than 200 sure to be underway before the end of the week.

In the Gypsy Oil Company's test, No. 2 Fixico in the southeast corner of the northwest of the northeast quarter of section 26-9-6, a lime was topped at 4009 feet. The majority of geologists say this is the Hunton lime. If so, it is 106 feet lower than it was found in the Independent-Garland well, No. 1 Fixico, in the northeast corner of the southwest of the northeast of section 26-9-6. The Hunton lime was topped in this well at 3903 feet.

There is reason for doubting that the formation in the Gypsy well is the Hunton lime. In many places in this part of Oklahoma, the Hunton formation is absent due to erosion. Some believe the formation found in the Gypsy well is the Viola lime, which lies below the Hunton. In case it is the Viola formation, elevations are running correctly.

Possible Fault

But a difference of 106 feet in the Hunton formation between two offset locations can be explained only by a fault, which is the reason for some concern among boosters for the field.

Even if a fault does exist as the well records indicate, there is already production on each side of it. So it may be that a fault will be outlined and the field still go on to the heights predicted for it.

The Gypsy well began flowing by heads from the formation believed to be the Hunton. It is drilling ahead and may reach the Wilcox sand this week. While drilling it is making oil from the upper formation.

There are only three wells at Seminole City producing from the Wilcox sand. All other wells are in the Hunton lime. But practically all present drilling is for the Wilcox sand. So the future of the pool lies in the area of the Wilcox and its productivity.

The banner well of the field is the Independent-Garland Fixico 1 in the southwest corner of the northeast quarter of section 26-9-6, completed July 16 for 6379 barrels. It was the first Wilcox sand well of the field and the banner one, as its output had increased to 8192 barrels by September 16. It had produced close to 400,000 barrels of oil.

The second well in production is the Amerada-Gardner partnership Killingsworth in the southeast corner of the southwest of the northeast of section 24-9-6, which was completed September 15 for 275 barrels an hour in the Wilcox sand from 4120 to 4145 feet.

Barnsdall Lease Good

The Gypsy Oil Company's No. 1 Gardner in the southeast corner of the north half of the northwest of section 24-9-6, which is more than a month old, is producing 2170 barrels daily from the Wilcox sand.

Most of the other production in the field is from the Hunton lime. The best lease for output from the Hunton lime is Carter farm of the Barnsdall Oil Company, the south half of the northwest of section 24-9-6. Three Hunton lime wells are producing. This lease is one of the properties acquired by the Barnsdall Corporation in buying the Waite Phillips Company.

No. 1 Carter, in the southeast corner of the northwest quarter of section 24-9-6, was completed June 3 in the Hunton lime, 3825-40 feet, for 2540 barrels initial flow. It is now flowing 1125 barrels daily. Rig is being built to drill a twin well to the Wilcox sand. No. 2 Carter was also completed June 3 for 225 barrels in the Hunton lime from 3930-60 feet. It is flowing 275 barrels. This well is drilling deeper to the Wilcox, being an offset to the Gypsy Wilcox well.

Drilling Deeper

No. 3 Carter in the southwest of the southeast of the northwest of 24-9-6 was completed September 5 in the Hunton lime from 3895 to 3929 feet for 1700 barrels, and is now flowing 1475 barrels. A twin will be drilled to this well to reach the Wilcox sand.

Many of the other Hunton lime wells of the area are being drilled deeper to the Wilcox sand, which is the objective of the campaign at Seminole City now.

Seminole City is evidently a separate pool from the few wells producing to the north in township 10, range 6. The first well of this area was drilled by F. J. Searight, Youngblood No. 1 in the southwest of the northeast of the southeast quarter of section 33-10-6, which topped the Hunton lime at 4114 feet and drilled to 4122 feet, making 275 barrels initial. It is still flowing 80 barrels daily.

Youngblood No. 3, owned by Searight, in the northwest corner of the northeast of the southeast of section 33-10-6, is drilling down to the Wilcox, which has not been tested in this area.

More Pipe Lines

The Prairie Oil & Gas Company, the Carter Oil Company and the Mid-Continent Petroleum Company, each has a well in this section.

The Indian Territory Illuminating Oil Company, which had the first production in the Seminole City field, is drilling several of its Hunton lime wells down to the Wilcox sand.

Adequate pipe line facilities will reach the field by the time production warrants. Four lines, Prairie Pipe Line Company, Oklahoma Pipe Line Company, Gulf Pipe Line Company and the Sinclair Pipe Line Company, now serve the field. Both Gulf and Sinclair are laying additional lines. The Tidal Oil Company and the Magnolia Pipe Line Company, are laying their first laterals into the field. The Cosden Pipe Line Company has facilities within 15 miles of the field and will no doubt build a line, if its properties develop sufficient production.

Drilling at Seminole City is done by rotary tools down to the top of the producing formation, where holes are completed with standard tools.

Some trouble is being experienced on account of inadequate fuel supply, due to the rush of building rigs. The Tri-Counties Gas Company, subsidiary of the Independent Oil & Gas Company, is to lay another fuel line into the field.

The Tidal Oil Company has bought a site for a tank farm in the northeast of the southwest of section 25-9-6. Tanks of 80,000 barrels capacity will be built.

Supply houses already built at Seminole City are Continental Supply Company, Jarecki Manufacturing Company, Frick-Reid Supply Company, National Supply Company, Oil Well Supply Company, Tulsa Rig Reel & Manufacturing Company, Williamsport Wire Rope Company and Black Wire Rope Company. Other firms are preparing to locate stores there.

Seminole City Well Flows 100 Barrels Hour

Tulsa, Okla.—The Mid-Continent Petroleum Company's Tayoch No. 2, Seminole City pool, northwest corner of the northeast of the southwest of section 24-9-6, made 700 barrels during the first 12 hours from Hunton lime 3936-4040 feet and is now flowing 100 barrels an hour.

Seminole City pool was making 22,000 barrels daily before this well was completed.

"Mystery" Well Finds Second and Deeper Pay in Huntington Town-Lot Area

Wilshire Oil Company withholds information of well reported producing from 4075 feet

By Wm. V. Gross

Staff Representative

Los Angeles, Calif.—An economic fiasco at Huntington Beach's new townsite area, which hitherto was considered inevitable, apparently will be avoided by discovery in that area this week of a second, deeper producing horizon. The deeper sand is not only greater in thickness than that which gave rise to the neighborhood's boom, but this week's completions indicate its opportunities are far above those of the upper sand.

The reverse outlook for the field was occasioned by results obtained in completion of the Wilshire Oil Company's Huntington Beach No. 1, "mystery" well of the field. Due to the fact that a number of operators were unwilling to contribute "dry-hole" money to the Wilshire's operation when it was started the company has consistently refused to divulge any information as to the well's progress. In pursuance of this policy it has been remarkably successful, notwithstanding the existence of the following information with regard to Huntington Beach No. 1's completion.

Huntington Beach No. 1 was completed at about 4075 feet for an initial production estimated at from 900 to 1800 barrels of 24.1 gravity oil. It is believed, in view of the fact that the well is making about 28 per cent mud, that the gravity of its oil will rise to a 27 degree product when the well has cleaned itself out. Huntington Beach No. 1 is flowing through a 38/64-inch bean and is showing a tubing pressure of 275 pounds and a casing head pressure of 400 pounds.

Record of Well

So far as can be learned, 18-inch casing was cemented at 690 feet in the Wilshire's well. Eleven-inch was cemented at 3025 feet and eight-and-one-fourth-inch satisfactorily cemented at plus or minus 3360 feet. Six-and-one-fourth-inch string was landed at about 4005 feet. This includes about 800 feet of perforated pipe. Tubing used was four-and-three-fourths-inch. (Above information of the Wilshire Oil Company's Huntington Beach No. 1 well is approximate and has not been verified by the operators, due to their policy of secrecy. It may be taken, however, as sufficiently authentic for practical purposes.)

Completion of this well has almost totally changed tactics of the townsite developers. The Superior sand, found in the Superior Oil Company's Jones No. 1 at about 3000 feet, roughly speaking, is being passed up in the rush for the deeper more productive sand, considered to be the same from which the Standard Oil Company is producing in an older part of the field. Not only are wells now drilling going after the Wilshire's sand, but those which have been completed in the Superior sand probably will be reconditioned for deepening. E. J. Miley's Pacific Electric No. 1, one of the townsite's early producers, has pulled the oil string, after it having collapsed, and is drilling ahead with a view to obtaining production from the 4075 foot sand. In the rush with Miley are George F. Getty, the McKeon Oil Company, the Petroleum Securities Company and others.

Petroleum Securities Company has passed the 3000 foot zone in eight wells and should have a string of new producers within three weeks, provided the Wilshire's sand underlies its holdings and is productive at points of its locations. McKeon Oil Company's Huntington No. 1 has shut off the Superior sand and on September 8 was drilling and coring below 3800 feet. The well was cemented at 3230 feet, an oil sand having been topped at 3578 feet. While George F. Getty's Coffin No. 4 is expected to be the next well completed in the Wilshire sand, he has five additional wells on the way. Getty's No. 5 effected a water shut-off at 3045 feet and is drilling below 3240 feet; his No. 6 is standing with 10-inch cemented at 3048 feet, while his No. 8 is preparing to set 12½-inch casing at 1958 feet after topping 125 feet of loose oil sand at that depth.

Other Tests Due

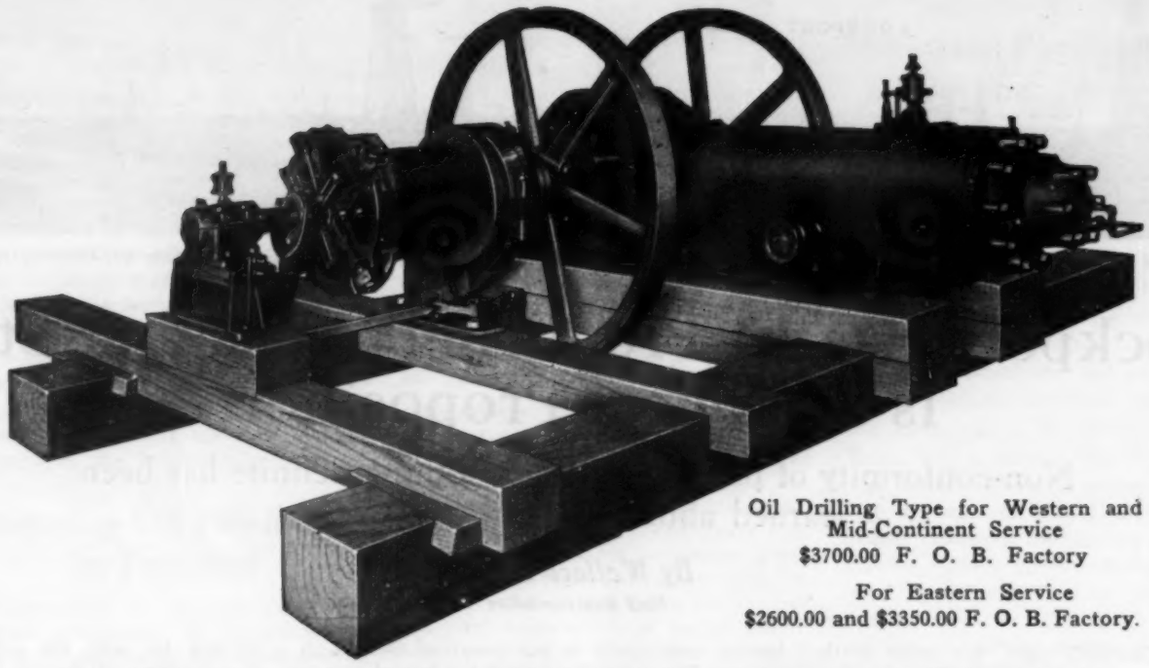
Three other wells are due for completion in the Huntington Beach townsite deep sand before the end of the month. E. J. Miley's Pacific Electric No. 2, which did not encounter the Superior sand, is coring ahead in shale at 3840 feet after having logged an oil sand at 3502 feet. Miley's Pacific Electric Nos. 3 and 4 are standing cemented at 3000 feet. The Superior Oil Company's Gillette No. 7 was in an oil sand at 3456 feet, while its Babbitt No. 1 is drilling below 3300 feet after having set 10-inch at 2986 feet, a depth considered below the Superior sand in this locality.

Two completions in the upper zone this week tend to accentuate the poor productive quality of that sand. Both were in the Barley Patch district of the newly opened portion of Huntington Beach. The Standard Oil Company of California's Huntington No. 1, on the Crawford lease was completed for an initial estimated at 129 barrels, coming from 3084 feet. In a few days, the production has dropped to about 65 barrels of 16.5 gravity oil running a cut of five per cent. Huntington No. 1 cemented 16-inch casing at 819 feet, 11¾-inch at 2972, while the tubing was run to 3069 feet. With installation of a 14/32-inch bean Huntington No. 1 showed a casing head pressure of 50 pounds. Six-and-five-eighths-inch string was landed at 3083 feet. The Standard's second completion, Huntington No. 2 on the Crawford property, has dropped from an initial of 150 barrels to about 60 barrels of the same quality oil. The well was completed at 3069 feet and is producing from 116 feet of 110-M Kobe.

Wells Being Watched

Among other operations in the townsite and Barley Patch which are being closely watched are: Hogan and Lytle's No. 1 which blew out while standing cemented at 3090 feet. The well showed mud and gas, but no oil. Julian Petroleum Corporation's Stein No. 1 is preparing to set casing over a shallow zone of about 150 feet of loose oil sand topped at 1900 feet; McKeon Oil Company's Huntington No. 2, which had slight showings in the ditch from 1810 to 1836 feet,, is standing at 2033 feet; Paragon Oil Company's Lewis Community No. 1 is standing cemented at 2990 feet; the Standard's Anderson No. 1 is drilling below 3320 feet after having cemented 11-inch casing at 3010 feet and having encountered streaks of oil sand at about 3291 feet. On the same company's Crawford lease, Huntington No. 3 continues negative below 3300 feet; its Huntington No. 4 is standing cemented at 3005 feet, and Huntington No. 5 has cemented 11¾-inch at 2961 feet. Huntington No. 5 reported an oil sand at 3015 feet. The Superior Oil Company's Chadnow No. 1 has cemented 11-inch at 3000 feet and a total depth of 3035 feet, while its Gilmore No. 1 has effected a water shut-off and is drilling below 3350 feet. The U. S. Royalties Company's No. 1 Stein, which picked up a shallow sand at 1960 feet, is drilling below 2850 feet.

A resume of townsite and Barley Patch operations taken September 17 showed a total of 91 operations, one of which has been abandoned. The majority of the active drilling wells is in the townsite, while all but two of the 26 present producers are in the Barley Patch. Major company production figures credit the area with an estimated output of 4900 barrels. Of this, about 3220 barrels are being produced by the Standard. This gives the Barley Patch and the townsite a well average of 188 barrels.



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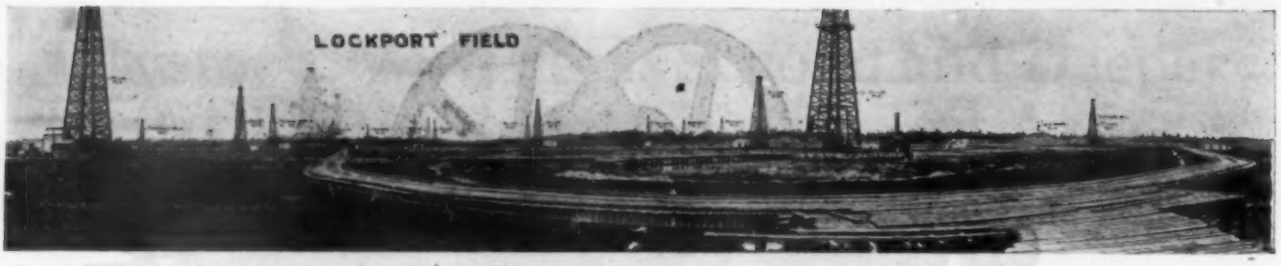


View of Lockport with its elevated wooden roads and other modern developments where two years ago there was nothing but a marshy jungle

Lockport Has 14 Producing Wells and Still Is a Wildcat Proposition

Non-conformity of pay levels means nothing definite has been learned about sands in two years

By Wallace Davis
Staff Representative

LOCKPORT field, five miles northwest of Lake Charles, in Calcasieu Parish, Louisiana, today presents one of the most difficult problems of any producing area in the Gulf Coast country.

After more than two years of exploitation during which an average of five rigs have been running, the field is still a wildcat proposition. Authority for such a statement might be gathered from the fact that Vacuum Oil Company has arrived at no definite drilling program after completing 14 producers.

Lockport is conspicuous for peculiarities not found in the majority of other coastal fields. It has no salt dome, but produces from a loose, broken shale formation in the Miocene. The Oligocene has never been found after drilling to 6027 feet, the deepest hole drilled in the Gulf Coast territory by 160 feet.

Many Producing Levels

The problem of vital importance yet facing the Vacuum at Lockport is the relativity of pay sands known in the field. Substantial production has been obtained from eight different horizons ranging from 100 to 675 feet apart. Whether or not these are all different and distinct sands or whether several of the pay levels are the same sand dipping sharply has not been determined. Not until this problem has to some extent been solved will operators be able to call any of the acreage proven or follow a logical development program. Production has been obtained from sands around 3100, 3300, 3800, 4000, 4300, 4410, 4800 and 5475 feet.

Gravity of Lockport crude, which ranges from 23 to 29 degrees Baume, has even failed to bring a reasonable correlation between the sands. While the gravity of certain wells at approximately the same depth has varied several degrees the same gravity has been found in wells of more than 1000 feet difference in depths.

There is one proven feature about Lockport—that of supply. The fact that the Miller No. 1 discovery well, completed September 9, 1924, for an initial of 3000 barrels, is still flowing more than 100 barrels consistently is one proof of the supply. The field's daily yield has hinged around 4,500 barrels for the past six months. Further proof is given, aside from several other wells performing similarly to the Miller 1, in the fact that the two largest initial wells brought in, at Lockport were completed within the past month at depths different from former producers. The Bordages No. 3 made an initial of 10,000 barrels from 3784 feet early this month and the Miller No. 8 was completed September 19 for 4000 barrels of oil and 80,000,000 cubic feet of gas from 4412 feet. The former was choked down to 1500 barrels on the appearance of sand but sanded up after 11 days. The Miller 8 sanded up and bridged over after running wild two days.

Sanding of wells is common at Lockport, especially those flowing under high gas pressure. After being cleaned they make flowing wells of long duration, evidenced by the fact that of the 14 wells completed only one is on the pump. The Miller 8 and Bordages 3 are now being worked over, and both are expected to make substantial wells.

Heavy Gas Pressure

Gas pressure is an outstanding feature of Lockport wells. Practically every good initial producer is accompanied by a flow of gas ranging from 10,000,000 to 40,000,000 feet. Two of the 10 failures resulted from blowouts that cratered the holes.

Development at Lockport has given rise to the deepest drilling in the Gulf Coast. The field holds two records for depth; the Phoenix B-1 going to 6027 feet before being abandoned as dry and the Freiberg & Wolfe 1 making a producer at 5476 feet, the deepest commercial well in the coastal territory by 500 feet. At the opening of this week it was making 350 barrels pipe line oil after coming in late in the summer for 700 barrels. The Lock-Moore 4, drilling now at below 5800 feet and the Miller 10 at 5350 feet is an example of the deep drilling that is consistently going on. It is not uncommon at Lockport to set more than a mile of 6⅝-inch casing.

Holes in the field are usually started with a 22-inch bit with the following strings of casing set: 100 feet of 18-inch, 1250 feet of 12½-inch, 3500 feet of nine-inch, and 6⅝-inch to the top of the pay. In wells reaching near the 6000 foot depth the company usually reduces the casing to 4¾-inch after the 6⅝-inch has been sealed. The Vacuum has just finished setting a full string of 6⅝-inch to 5825 feet in the Lock-Moore No. 4.

Hard Formations

Hard formation, especially at the low depths is characteristic of the Lockport field. Well logs show considerable solid rock encountered, in several cases strata of rock 100 feet thick without a single break. Four months is about the average time required to complete the wells.

The Vacuum has just completed a tank farm at Lockport of six 80,000-barrel tanks. Aside from this storage the company has two 80,000-barrel tanks at Rose Bluff, near the field. Production at present is handled by barge through the intercoastal canal and Gulf of Mexico to Texas City, where it is shipped to Paulsboro, New Jersey, a Vacuum refinery site, by tanker. Construction of wharf fronting 1,000 feet on the Calcasieu River is now under way by the Vacuum, which, when completed, will permit the company to load tankers drawing 30 feet of water direct from the wharf. The new tank farm site is 80 acres, including the 1000-foot strip fronting along the dock and a highway strip connecting the wharf directly with the farm.

In Marsh

Deep drilling at Lockport has not been the only great difficulty in development. Bringing the field to its present condition has revealed some of the most difficult exploitation undergone in any field in the United States. Prior to beginning of development work in the field shortly after the initial discovery, location sites had to be blazed in marshy jungles. The building of wooden roads elevated several feet was necessary before transportation through the field was possible. From the standpoint of field development and modern facilities, Lockport might be consid-

ered to represent one of the greatest marks of progress seen in the industry.

Lockport is an example of a single company operation of a field, which has become common in the Gulf Coast during the last two years. Acreage is controlled two-thirds by the Vacuum Oil Company and one-third by the Gulf Refining Company of Louisiana—all development being under the direction of the Vacuum. Shortly after the discovery well was completed the Marland Oil Company drilled three dry holes to the south and Bordages et al and the Southern Exploration Company one dry hole each. Within the past year, however, the Vacuum has been the sole operator in the immediate vicinity.

Increasing Oil Production In Trinidad

Washington, D. C.—Trinidad's Petroleum production in 1925 was the largest yet known in the colony, being 329,695 barrels in excess of that for the preceding year, according to a report from Vice Consul Alfredo Demarest, Trinidad, made public by the Department of Commerce. According to the administration report of the Inspector of Mines for 1925, this is the sixth consecutive year which has shown a considerable increase in the output of crude oil. For some time past, owing to conditions on the world market, drilling has been confined almost exclusively to existing fields and practically no new areas have been proved, but toward the close of 1925 it was apparent that activities would soon be extended. At present operations are in progress in a number of new fields.

Crude production for 1925 is recorded as 125,000,000 imperial gallons, compared with 113,000,000 gallons for 1924; in American gallons these totals amounted to 151,200,000 and 135,600,000 respectively.

Petroleum exports had the largest value of any Trinidad product exported in 1925, and represented 33 per cent of the total value of the Colony's exportation—$7,490,779, with the total valued at $22,430,308. Ten years ago, in 1915, the value of petroleum products exported amounted to $323,258, and formed less than three per cent of the total exports. Most of the petroleum exported is in the form of crude fuel, of which a large part is shipped the British Admiralty under contract.

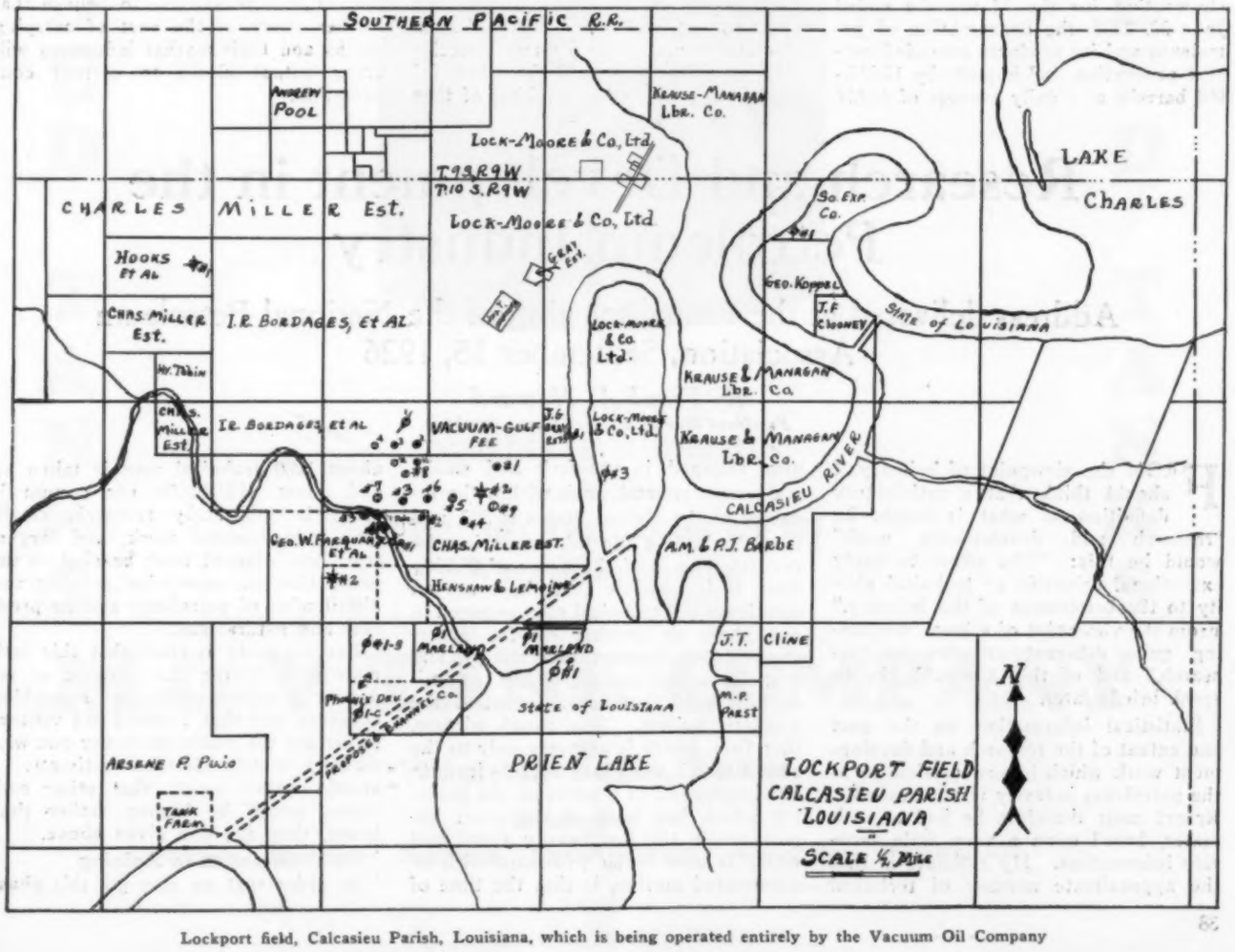
The total number of wells drilled up to the end of 1925 was 1027, of which 658 were on Crown lands. In 1925 99 new wells were opened up, 62 being on Crown lands. The numbers of companies engaged in oil production in the Colony increased from 16 to 19 during the year.

Mountain Region Output Declines Sharply

Casper, Wyo.—Oil production in the Rocky Mountain region during the past week declined sharply, due to no visible cause other than a natural decline Salt Creek, which produces nearly half of all oil in the district continued to decline, reaching a point slightly above 46,000 barrel mark. Colorado and New Mexico production did not change much. Montana continues to make itself conspicuous by gaining steadily There was a decided decrease in the production of black oil during the week. The demand for this grade of crude usually slackens during the early fall months. Black oil pioneering has not been up to expectations during the summer, despite the fact that road building and street paving gradually is using more asphalt.

Mount Poso Producer

Los Angeles, Calif.—Vedder No. 1, the Shell Company's discovery well in the Mt. Poso district, is producing 360 barrels of crude daily after being put on the pump.



Lockport field, Calcasieu Parish, Louisiana, which is being operated entirely by the Vacuum Oil Company

Better Economic Conditions Now Obtain in Oil Industry, Dow Tells Association

Statistics show consumption ahead of production and tendency to hold production to demand

By Roye Munsell
Staff Representative

Atlantic City, N. J.—Better economic conditions now obtain in the Oil Industry according to the opinion expressed by Fayette B. Dow at the annual meeting of the National Petroleum Association here September 15, 16 and 17.

Mr. Dow said in part:

Our members, in common with the industry as a whole, have been passing through a very difficult economic period. In four consecutive summers at the height of seasonal consumption, gasoline prices were badly broken. Crude oil production exceeded requirements. Too much gasoline was manufactured. Stocks were too large. In this situation competition for markets inevitably brought lower prices, in consequence financial results of operations were very unsatisfactory, for the large as well as the small units in the industry. This year somewhat better conditions have prevailed. An examination of the Bureau of Mines figures shows that for the 12 months ended June 30, 1926, the consumption of petroleum and its products exceeded current production and imports by 17,015,000 barrels, or a daily average of 46,616 barrels. There have been advances in gasoline prices in 1926—now the subject of an investigation by the Federal Trade Commission—but these advances amounted to a recovery no greater than the decline of these prices in 1925.

Prices are still under the restraint of large stocks of crude in storage.

Gasoline Stocks Less

Gasoline stocks in relation to consumption are less than in recent years. On June 30, 1926, at the rate of June consumption, there was 46 days' supply as compared with 62 days in 1925 and 63 days in 1924. The tendency for the past year has been clearly in the direction of stabilization but the experience of the industry in recent years shows that the relation of supply to demand can be quickly thrown out of balance.

The production of too much crude or the refining of too much crude means lower prices and inventory losses. No company or group of companies is powerful enough, nor by any conceivable combination could be powerful enough to prevent the working of that economic law. Throughout industry generally no change in practice is perhaps more noteworthy than what has been described as "hand to mouth" buying." Orders are being placed for reasonably immediate rather than remote requirements, manufacturers are making what is ordered and not piling up stocks against anticipated demands. The result is a more even flow from raw materials to consumption, steady plant operation, less speculation and less depression of prices from competition of accumulated stocks.

In the oil industry consumption requirements have been increased from year to year but manufacturing capacity has also been greatly increased, notwithstanding the seasonal character of the petroleum demand.

Stocks of finished products have been and are larger than necessary. While there has been an improvement in this respect it is reasonable to believe that further study of the cost of carrying stocks and their market influences will bring output closer to current consumption.

Research and Development in the Petroleum Industry

Address delivered at the annual meeting of the National Petroleum Association, September 15, 1926

By Frank A. Howard
President Standard Development Company

FROM the viewpoint of industry, I should think that a satisfactory definition of what is meant by "research and development work" would be this: "The effort to apply exceptional scientific or technical ability to the betterment of the industry." From the viewpoint of science, a meaning quite different attaches to "research," and of this I would like to speak briefly later.

Statistical information on the cost and extent of the research and development work which is now carried on in the petroleum industry is not available. Resort must therefore be had to estimates, based upon a very little accurate information. My estimate is that the approximate number of technical men engaged in research and small-scale experimental work within the industry in the United States is 500, and that the budget for this work for the current year is of the order of $5,000,000. It is possible that there are an additional 500 technical men engaged in one phase or another of the larger-scale depevelopment operations, and that the annual budget of the industry for this work is twice as great as the research budget. The rough picture, therefore, which is accurate only to the extent that it will give concrete form to our impression of a phase of the industry which has been of enormous importance in the last twenty years, and which is now moving forward with an accelerated motion, is that the time of about 1000 technical men is taken up and about $15,000,000 per annum is spent in laboratory research, small-scale experimental work, and larger-scale development work bearing on the production, transportation, refining, and distribution of petroleum and its products and natural gas.

Let me make it clear that this estimate is only for the purpose of reducing a vague outline to something concrete, and that I would not venture to dispute the matter with any one who made a widely different estimate. I should rather expect that other estimates would be higher, rather than lower, than the one given above.

Research in Refining

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of the industry oriented a little better, it should be understood that the great bulk of these expenditures are made in what is called the "manufacturing" branch of the business and that the tie-in of the research and development activities with the regular manufacturing activities is so close that the best accounting system cannot make an accurate separation. All manufacturing activities, including the production of natural gasoline as well as refinery operations, require the constant aid of two types of technical services, that is, product control and process control. It is from these routine activities that the research and development program branch outward. Control of the quality of products carries with it always the thought of improvement in products. Control of manufacturing operations carries with it the thought of better processes and better equipment. In the smaller units of the industry there could not very well be, and should not be, any effort to clearly separate the functions of research, experimental work, and development, from the operating organization of the company. Even in the largest units of the industry, it is the custom to tie these line and staff technical activities together under a single control, so that there may be no lost motion between parts of the machine which must function together. This community use of men and equipment for manufacturing and for research and experimental work is one thing which makes it so difficult to get any accurate idea of the separate extent and cost of the latter. When we come to deal with the large-scale development work, we run into a similar type of difficulty. Whether a new or modified piece of oil-refining equipment is to be called a development job or whether it is to be regarded as a betterment of plant and charged into plant account or in what manner the cost is to be split between these accounts is sometimes a difficult question capable of final determination only at a time long after the expenditure has been made.

The distinction between "research" and "development" is roughly the distinction between science and technology. The research worker is typically one who works with so-called "laboratory equipment," involving a minimum of the engineering element. He is seeking to establish some single fact or discover some property or principle or relationship. For example, a typical research problem familiar to most oil refiners is that of determining the chemical treatment required to make a new distillate conform to specifications. The development worker deals with a situation in which the theory or principles are mostly known or in which at least working hypotheses are available. His real problem is the coordination of physical and chemical data with a mechanical design to give the cheapest and best piece of equipment or process which will accomplish the result aimed at. Development is founded upon research and is the step lying between research and practice in most instances, although there are some problems in which straight laboratory research alone gives a result in terms applicable immediately to the requirements of the industry.

A typical development problem is the working out of a new type of distillation equipment. Quite clearly, the two fields merge into one another. Any major improvement is likely to involve a steady progression, beginning with a variety of laboratory research problems and finishing up with engineering development work.

Trained Men

Returning to the definition of industrial research and development, an effort to apply "exceptional scientific or technical ability" implies the selection for this work of men who may be expected to meet the qualification. I do not regard industrial research and development work as a profession, but as a business. The difference is this: For a profession, a definite formal training is a requirement; for a business, experience shows that natural gifts may develop without the aid of any formal training. The experience of the oil industry, at least, has abundantly confirmed this impression. It remains true here, however as in all other fields, that the supply of natural genius is always inadequate to meet the demand, and during the last decade the demand for men for research and development work in the oil industry has been so great as to require the systematic recruiting of personnel. In this systematic recruiting, we substitute the requirement of high average intelligence supplemented by exceptional training or exceptional experience for the requirement of natural genius. By this means we meet our situation, and arrive at the common-sense result of employing for research and development work mainly scientific and technical graduates. Among these are a good proportion of men who have had university post-graduate work equivalent to that required for the degree of doctor of philosophy. This means from four to seven years of university scientific or technical training. Such exceptionally trained men of high intelligence make up the bulk of one thousand technical men who, it is estimated, are now engaged in research and development in the oil industry.

To round out the picture of the status of research and development in the oil industry at the present time, I should like to give you two examples: One is a very small refinery having only a single responsible chemist. He must take charge of the routine inspection of all products. He must serve as the superintendent's adviser on all treating problems. He must investigate and adjust complaints, and do all of the thousand and one things which the refinery chemist is called upon to do. Carrying this load of regular manufacturing duties, he has simultaneously, with the encouragement of his superiors, successfully conducted an important piece of straight laboratory research work resulting in certain new discoveries relating to the color stability of a class of white distillates. With the assistance of a single young engineer, whose time is mostly taken up with supervising drafting work and construction required for refinery maintenance and for occasional new building, he has carried this research work through the first stages of development and has a very creditable new full-scale piece of distillate-finishing equipment in operation at the present time in the refinery. Some time will elapse before we shall know whether this work will constitute a major step in advance of the refining art or whether it will be merely one of the innumerable variants of standard practice which appear, live their brief life, and disappear. Regardless of the fate of this work, however, this is typical of real constructive research and development work. The amount of work done under such conditions within the industry is very great in amount and of incalculable importance. If the enormous total results of work of this character were subtracted from our knowledge of today, the public would pay more for petroleum products, have less of them, get poorer products, and we should all be less prosperous than we are.

This is one extreme of the picture of research and development in the industry. The other extreme is made up by the large organizations of a few great companies, which maintain separate large, well-equipped and well-staffed research laboratories; in addition, perhaps, support separate research projects at university laboratories; and maintain experimental and engineering organizations solely for prosecuting development work. An example of this type of work was the development of the Tube-and-Tank cracking process by the Standard Oil Company of New Jersey.

Patents

No picture of industrial research and development can be complete without some reference to patents. The purpose of the patent system is to promote industrial progress. If our perspective is really broad, we can see that it does this. If we have time for only a brief glance at a limited part of the picture, it sometimes looks very much as though the purpose of the patent system were to harass industry. My impression of the present status and effect of patents in the petroleum industry is this: On the whole, the patent system has been properly and wisely used by the oil industry itself. Progress has been promoted; the important patented advances have been made available to all on license terms which have caused little complaint; there has been very little litigation and very lit-

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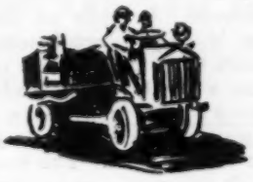

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7 Shuts off bottom water.

8 *Forms an absolute and everlasting protection from upper water.*

9 Makes it possible to set casing any distance from bottom, even though gas pressure is present.

10 Allows pulling of extra strings of casing—particularly important in cable-tool holes.

11 Brings gas blowouts under control.

12 Controls flow of gas when gas is used to stimulate production of oil [detailed information on this phase gladly given on request] and effectively kills gas wells too wild to be brought under control.

13 Detects sources of casing leaks, locates them and positively eliminates them.

14 Repairs split casing.

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Duncan •• Oklahoma

tle attempt to drag innocent third parties into disputes. The industry is suffering, however, to some extent and progress is perhaps retarded, rather than advanced, in many cases, by patent disputes arising, either between competing patentees outside of the operating industry or between one of these and some operating unit. Much of this is small and unimportant in individual cases, but in the aggregate is a nuisance.

There is, so far as I know, at the present time no major patent suit going on strictly between units of the oil industry. There are some important patent controversies being waged in the cracking art and in the natural gasoline art, but in these cases the moving influence is that of an interested group outside of the oil industry itself. Experience in the oil industry has not been different from that of other industries in that regard. Where an outside interest, speculating in patents for the sake of royalty revenue, rather than for the sake of profit resulting from the use of the invention, is involved, there is apt to ensue a bitter and long-drawn-out fight. The view of those who have had the most experience with this phase of development work is, I think, that patents for the sake of patents is a mistaken policy; that speculating in patents as a business in and of itself is unsound economics; and that the proper sphere of patents is that of an incident to operations. For an industrial organization, I think any other view is unsound business as well as unsound economics.

At the beginning of my remarks I indicated that the viewpoint of science toward research is different from that of industry. The difference is this: Science seeks knowledge for its own sake. Pure scientific research is the prosecution of an investigation solely for the purpose of adding to the sum of human knowledge and quite without regard to whether the result has any other value in itself. Pure scientific research can therefore be baldly defined as a search for knowledge, without any further qualifications. The relation between pure scientific research and industrial research and development work is simply the relation of the general to the specific. The difference seems of importance, but the perspective given by a review extending over any long period of time shows that the limitations of industrial research and of industry itself are very closely defined by the limits of pure scientific research.

Only so fast as the foundation of general scientific knowledge has been enlarged has it been possible to erect a sound superstructure of industry. Where industrial development proceeds without an adequate foundation of basic knowledge, the structure built up is unnecessarily costly and wasteful of natural resources. I think that American industry as a whole is apt to be tainted with this fault, the petroleum industry not more than others.

In Chemical Industries

The opposite situation exists in certain chemical industries, such as the coal-tar industry and its dependent branches. A sustained program of scientific research, a great deal of it in the field of pure science, laid the foundation for and was directly the father of a by-product industry which grew to large proportions in an orderly fashion with little preventable economic loss.

It is by no means fair to follow such a comparison too far. Nevertheless, the contrast is striking enough to give food for thought. Within the last five years, there has been a serious effort to analyze this situation in so far as it applied to the petroleum industry. The conclusion reached from this analysis was that it was required for the future well being of our industry that strong encouragement be given to purely scientific research. It seems peculiarly appropriate that Mr. Rockefeller, Sr., should have again assumed the burden of leadership by establishing the first fund for the promotion of pure research in fields bearing upon petroleum, not as a measure of philanthropy but in accordance with a carefully considered plan, the result of which has been to vitalize the movement and make it a program of the industry as a whole.

I think it is permissible to conclude from the tenor of the report of the President's Oil Conservation Board, just issued, that the record of research and development work and its results in the petroleum industry during the last fifteen years is perhaps the most decisive single factor which justifies the nation in facing the future of oil with assurance. In spite of the fact that there is only a small supply of crude known to be available for our requirements, a supply totally inadequate to meet even a conservative view of the future demand, there is no lack of confidence in the outcome. The responsibility which this places upon the thousand technical men, more or less, who are now carrying the research and development program within the industry is heavy.

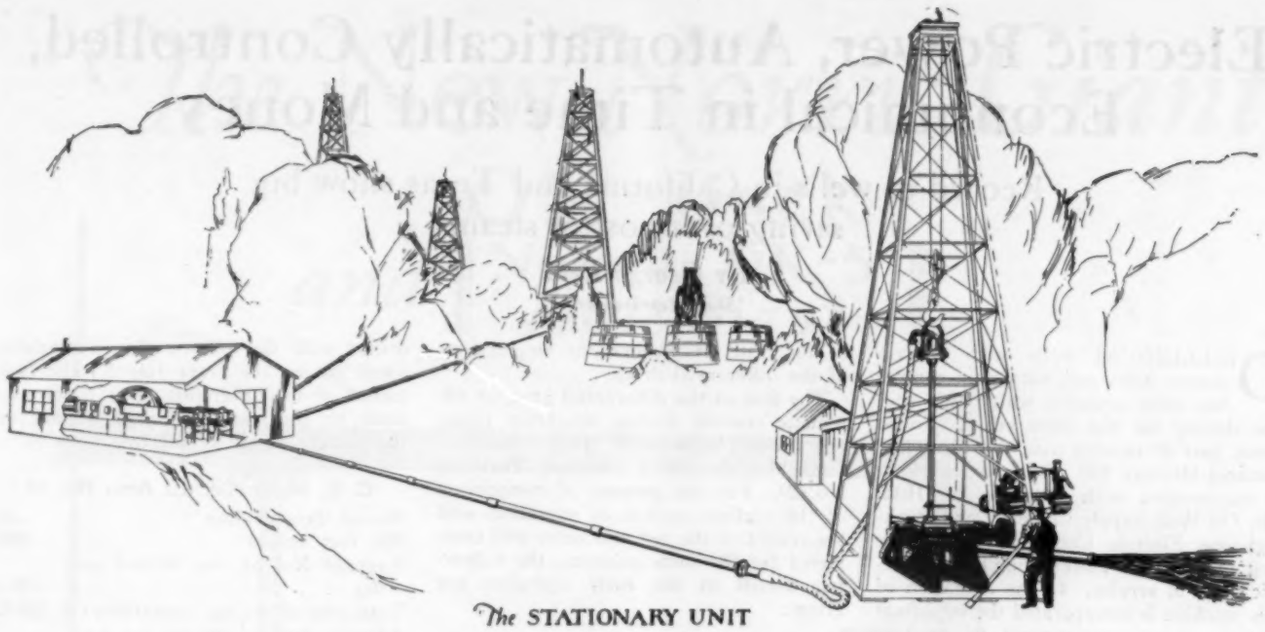
There must be an expectation of, and any forecast of the future must give reasonable latitude for, an ebb and flow of values of petroleum and its products, both relatively to other commodities and, within the industry, of one product relatively to another. It is this ebb and flow which takes care, on the one hand, of the problem of stimulating the search for additional natural resources and, on the other hand, stimulates the imagination of the inventor, the research worker, and the development engineer in all directions —in the direction of higher percentage recovery from existing oil fields, even at a higher cost; cheaper production from new fields; more efficient utilization, and consequent diminished unit consumption, of one product; creation of entirey new markets for the same product or for another; and synthesis or conversion of one product into another, in either direction, within the maximum limits. Some of these things are prima facie self-contradictory aspirations. Nevertheless, it is only under the stimulus of such a constantly changing situation as this that the utmost is accomplished in the way of extension of knowledge by research and development work in all directions, and only by existence of knowledge in all directions is it possible to obtain maximum efficiency in any one direction. To make this clearer, it now appears desirable to bend every effort toward increasing the production of gasoline relatively to crude oil. This can be done and will be done. It is within the bounds of possibility that the conversion from any form of heavier petroleum oil to gasoline may proceed practically quantitively, that is, 100 gallons of gasoline from 100 gallons of petroleum oil of any description; but it is likewise within the bounds of possibility that per capita gasoline consumption ten years hence may be one-third of present consumption, with the same use of motor transportation. There is, in theory and according to the promise of advanced research results even now available, ample margin to do either or both of these things.

Pure research in fields bearing even remotely on the petroleum industry and the utilization of its products should be and will be prosecuted more and more extensively. Industrial research and development work will provide its own quota of new knowledge and will build upon this and upon the contributions of pure science and of other arts, first in one direction, perhaps, and then in the opposite direction, as the necessarily short range view of business permits, but with the result of providing as the years pass on ever widening horizon of basic knowledge transmuted through technical skill into serviceable industrial operations and commercial products.

Continuous Operations

Great Falls, Mont.—Both the Rice Fulton interests and O'Neil Brothers will continue operating in Montana after selling the bulk of their holdings. The Rice-Fulton interests have already completed one well—a dry hole—in the Kevin-Sunburst field. The O'Neil brothers have not announced their plans but they are expected to operate in both the proven and semi-proven areas.

Helmar Duncan, of the Pauley Oil Company, of Colton, California, died from injuries received in an airplane accident recently. Mr. Duncan's son, Edwin, vice-president of the company, was seriously injured in the same accident.



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Electric Power, Automatically Controlled, Economical in Time and Money

Record of wells in California and Texas show big saving over cost of steam

By George Reid
Staff Representative

DRILLING oil wells with electric power units and automatic control has been attended with much success during the last three years. To be exact, just 30 months past, the Chanslor-Canfield-Midway Oil Company, working in conjunction with Frederic W. Hild, The Oil Well Supply Company and Westinghouse Electric Company, placed the first of the Hild Differential Drive Electric units in service. In the operation of this machine is incorporated the important feature of automatic control, the need of which has been recognized by progressive oil producers for many years.

There are many qualities to be desired of the modern drilling machine, for the producing industry, in changing from rule of thumb methods of drilling to scientific exploitation of oil lands,—and this change has occurred within the last few years,—has developed means and methods of boring which require equipment highly specialized in construction and operation methods. This trend toward the development of scientific equipment has included not only the drilling machine in itself, but practically all of the auxiliary equipment necessary to the successful boring of oil and gas wells.

As a result of this continued search for better and more economical working methods, the new idea or innovation is no longer looked upon askance, but every development having the appearance of merit is thoroughly tried out and investigated, and, if successful, such equipment is speedily adopted by the oil producing fraternity. Such is the history of the adaptation of rotary drilling methods; then the use of electricity for power purposes, and the automatic feed or control of the drill bit through the employment of the differential drive.

The first of the differential gear, or automatic control drilling machines began operations December 27, 1923—Chanslor-Canfield-Midway Oil Company Torrance No. 29. For the purpose of comparison of the earliest records of operation with the record of the last and latest well completed for the same company, the following details of the early operation are given:

Torrance No. 29, Dec. 27, 1923.
C. C. M. O. Co.

No. of Days drilling	87
No. of feet drilled	3702
Average No. of feet drilled per day	42.6
Total cost of energy (electricity)	$1,103.59
Average cost of energy per foot drilled	29.8c
Average cost of energy per 24 hour day	$ 12.68
Power rate	$ .01928

The first well drilled gave sufficient evidence of the success of the practical application of the theory of the differential drive, and the first or original machine was employed in drilling other wells. This original unit is shown in Figures 1 and 2, front and rear views of the outfit as its appears today on the derrick floor at Torrance, California. The record made by the first employment of the differential drive indicated that it was sufficiently flexible, possessed plenty of power, and functioned perfectly as an automatic device, and in addition, power costs per foot drilled were materially reduced as compared to steam driven equipment.

Prior to the completion of the last well drilled with the electric driven machine (well put on the beam July 1,) the best record of the differential gear outfit was made on the sixth well drilled, some of the details being as follows:

C. C. M. O. Co. del Amo No. 93

No. of days drilling	26
No. feet drilled	3400
Average No. of feet drilled per day	130.7
Total cost of energy (electricity)	$ 224.11
Average cost of energy per foot drilled	06.6c
Average cost of energy per 24-hour day	$ 8.62
Power rate	$ .00911

This record, good as it is from the standpoint of drilling time and low power costs was surpassed in the last well bored on the Main Headquarters lease of the Chanslor Canfield Midway Oil Company at Torrance, California. Well, C. C. M. O. Co. No. 62 was put on the beam, a 200-barrel pumper July 1, at 9 o'clock, being completed in 24 days.

Some of the details of drilling this well are as follows:

C. C. M. O. Co. No. 62

Spudded—June 6, evening.

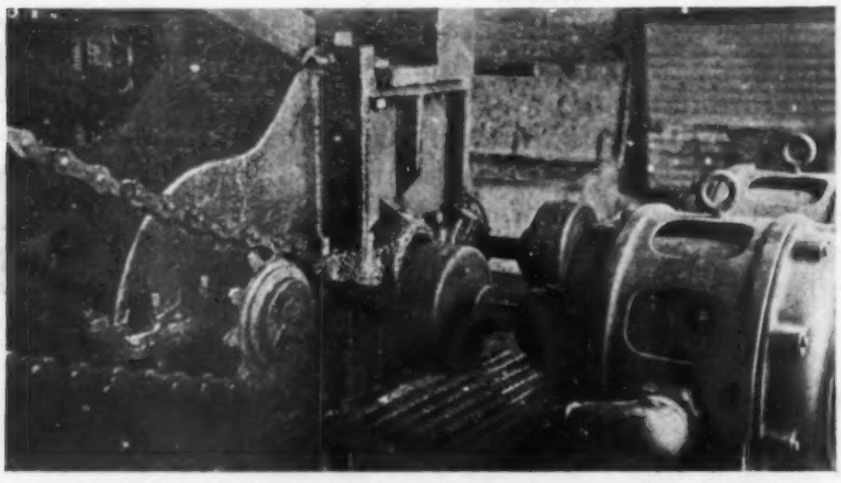
June 8—Run 13-inch stove pipe 590-600 feet. Cemented surface string, set two days.

June 19—Set 8-inch water string 2850 feet. Cemented, set three days. Water test, etc., two days.

June 24—Started drilling.

July 1—Well on beam.

This was the tenth well in 30 months completed for the company by the differential drive, the last three wells with no twists off or fishing jobs, and the equipment, as shown in Figures 1 and 2, is in excellent condition. Superintendent Harry Perry, for the company, states that the gears were inspected upon completion of the ninth well and found to be unworn. The only repairs after two and one-half years of service, has been the replacement of one drilling chain, the chain shown in the foreground of the illustrations. The other chains are those which were used on the original well in 1923. The drilling record of this tenth well is of much interest for it indicates the ease of control of the machine, its flexibility, power and speed of drilling, and the extremely low power cost of indicative of the economy of operation. In addition to the reduced power cost, figuring cost of electricity alone, there is also the reduction of $15 to $20 daily, which



The original Oilwell Hild Differential drive drilling unit on the Chanslor Canfield Midway Oil Company's Torrance No. 62. Front view.

The New Norris Giant

OK-Jack

and [NORRIS OK-5 / *Little Giant*]

THIS new Super Jack built along the same lines as the already famous Norris OK Jacks, is designed to give you continuous pumping service on your deep wells. The frame has been enlarged and constructed of oversize materials. It has been amply reinforced to take care of the excessive strain due to deep pumping.

IN designing this new Jack we have kept constantly in mind what has been found necessary in construction and weights of materials for a Jack that will deliver day in and day out service on deep production. Consequently we can now offer you a Jack that will pump your deep wells with the same economy, dependability and efficiency that the other Norris OK Jacks pump shallower wells.

THE Chart at the right lists various length rod line pulls in inches with the corresponding Jack stroke, study it carefully, you will readily see that the new Norris Jack will deliver an unequalled performance record. The length of the Giant Beam is 12 feet. Thus making stroke describe a wider arc, resulting in an almost *straight* lift. The length of the OK 5 (Little Giant) Beam is 10 feet. Both Jacks are equipped with the Norris adjustable structural steel frame.

IT will pay you to give this Jack a fair test on one of your leases. Learn what it will do under actual working conditions. Compare your production and expense records, then you will see why so many companies specify Norris OK Jacks on all their wells.

Performance Chart

Showing Length of Jack Stroke at Different Length Pull on Rod Line.

NORRIS GIANT	*NORRIS OK-5 (Little Giant)*
Rod Line .....18″ Jack Stroke .....44″	Rod Line .....18″ Jack Stroke .....42″
Rod Line .....20″ Jack Stroke .....50″	Rod Line .....20″ Jack Stroke .....46″
Rod Line .....24″ Jack Stroke .....60″	Rod Line .....24″ Jack Stroke .....54″
Weight with frame, 2,010 lbs.	Weight with frame, 1,579 lbs.

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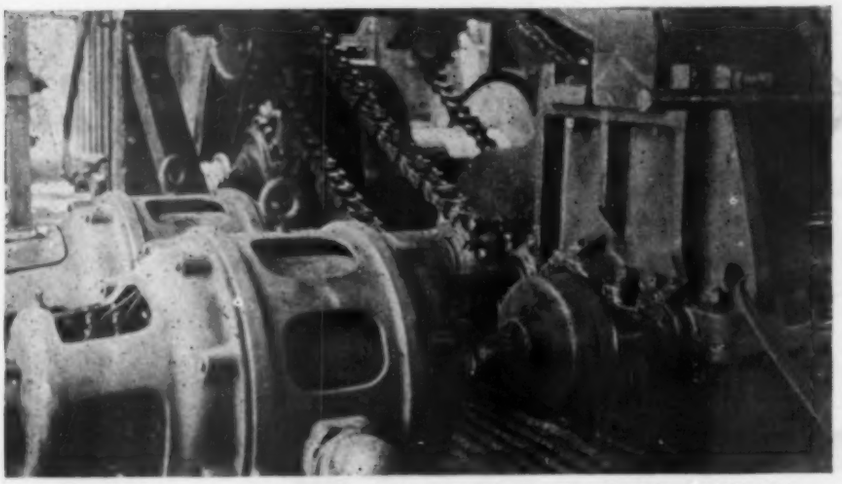

Rear view of the original Oilwell Hild Differential Drive on the Chanslor Canfield Midway Oil Company's Torrance No. 62. The picture was taken the day after the completion of the 10th well by this unit.

was formerly paid for boiler fireman where steam is generated for power purposes.

C. C. M. O. Co. N. 62 Torrance

June 6 to July 1, 1926.

No. of days drilling	24
No. of feet drilled	3500
Average No. of feet drilled per day	145.8
Total cost of energy (electricity)	$ 216.11
Average cost of energy per foot drilled 6.1c	(6.177c)
Average cost of energy per 24-hour day . .....$	9.00
Power rate . . ..$	.09504

In drilling Well No. 62 the company established certain new records where the differential gear drive is used. The time, or 24 days, is better than any previous record, as well as the average number of feet drilled per day, 145.8. The record of power cost is exceedingly low at 6.1c. This is about one-fifth of the cost of the first well drilled in 1923, and is about one-tenth of the estimated power costs where steam, generated by fuel oil, is employed.

Records compiled by the engineering department of the Gulf Production Company, covering the drilling of five wells at Hull, Texas, show similar savings in power costs, where the differential drive is employed. The following table, compiled from the records of both the Gulf Production Company and the Chanslor Canfield Midway Oil Company gives the details of power costs; average results from a number of wells drilled:

..	C. C. M. O. Co. 4 wells Calif. Av.	Gulf Prod. Co. 5 Wells Hull, Texas Av.
No. of days drilling..	35	51.2
No. of feet drilled, Av.	3599	3451
No. K. W. Hrs. consumed	36,155	35,305
Av. No. feet drilled per day	105.08	71.7
Av. K. W. H. used per foot drilled	9.97	10
Av. K. W. H. used per 24-hour day	1,028	707
Power rate	$ .09504	.02c
Total cost of energy for power	$ 343.97	$ 706.11
Av. cost of energy per foot drilled	9.5c	20.4c
Av. cost of energy per 24-hour day	$ 9.74	$ 14.13

The engineering department of the Gulf Production Company gives the following information relative to the difference in power costs,—steam, compared to electricity:

Energy costs—steam rig—average 5 wells $1,919.50	
Energy costs—Hild Electric rig—average 5 wells.....	706.11
Saving, over steam rig.....$1,213.79	

Electric energy costing—2c per KWH.
Estimate cost of steam—25 barrels fuel oil per day at $1.50 per barrel.

Others Use It

At the estimated rate of 25 barrels of fuel oil per day costing $1.50 per barrel, the average cost of fuel or power per foot drilled at 55½ cents figured for the average of five wells drilled at Hull.

In the foregoing discussion the differential gear electric drive is shown as operated by two companies only. Due to the successful and economic drilling of several wells during the last 30 months, the machine has found usage in other fields by other companies. Since the electric power, automatic control machine was pioneered in California it is but natural that its early extensive application should be shown in that territory. In addition to the original unit in use at Torrance, the Chanslor Canfield Midway Oil Company also operates a second machine in their Ventura drilling campaign. The Shell Company of California is operating their first drilling machine of this type also in Ventura fields; while G. J. Magenheimer is drilling in the same area with another machine of the same kind. Thus, three electric power differential drive drilling units are operating in the Ventura district alone. At Camerilla, California the Standard Oil Company of California is drilling with a similar unit, and S. H. Keoughn operates the sixth unit at Willows, California. The seventh machine is the property of the Gulf Production Company who purchased the second unit built early in 1924. Six additional outfits have been purchased by the Gulf Production Company. The eighth differential drive unit has just started operating for the Continental Oil Company in the oil fields of Wyoming.

The present development of the device is for electric rotary drilling, and while it can be developed for steam or internal combustion engines, electricity is preferred on account of its flexibility and closer uniformity of control.

The Machine

The drilling machine consists of a differential reduction gear and two motors assembled as one unit. The motors drive bevel gears which operate on the differential gear. One motor, has as its functions, the driving of the rotary table, while the second motor operates to control the differential which is connected to the hoisting drum of the draw works. It is interesting to note how the two motors operate or function to produce automatic feeding of the drill stem. When both bevels revolve in the same direction at equal speed, the differential revolves in the same direction at the same speed. Then, when the bevel gears revolve in opposite directions at equal speed, the differential is stationary.

When there is a difference in the speed of the bevel gears and both are operating in the same direction, the differential will rotate at the average of the difference between the two speeds. When the bevel gears are operating in opposite directions the differential revolves in the direction of the gear having the greater speed and operates at one half of the difference in these speeds. Thus when the two motors are running at or near full speed in opposite directions the hoisting drum of the draw works, which is attached to the differential as previously mentioned, can be rotated forward or backward by a slight variation of the speed of one motor. Such speed changes may be caused by load variations, which is the condition when automatically feeding the drill stem for drilling. One motor is then driving in the direction of lowering the drill pipe and is operating the rotary table, while the other motor is driving in the opposite direction and operating against the differential with a tendency to hoist the drill pipe.

If the brake is set the differential is stationary and the two motors are at equal speed. The rotary machine and the drill stem are then rotating but the drill stem does not move up or down. When the brake is released, the weight of the drill pipe pulling on the hoisting drum exerts a torque on the differential, and consequently on the two motors. This tends to speed up the motor operating the rotary table and to slow down the other motor. Due to this difference in speeds the drill pipe starts to move down. The effect of this descending weight on the drilling motor is to induce a negative load upon it and consequently it functions as a generator, serving as a dynamic, regenerative brake. This, coupled with the hoisting action of the other motor limits the rate of downward movement of the drill steam and prevents any sudden drop.

When the bit presses on bottom, the drilling motor receives a load and tends to work slower. As this load increases, the downward movement of the drill stem approaches zero as the drilling motor is approaching the speed of the regulating motor, and when some serious obstruc-

(Continued on page 74.)

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Panhandle Field Men Should Get Instruction In Combatting Poison Gas

Bureau investigators find high content of hydrogen sulphide dangerous to well workers

By Grady Triplett

Staff Representative

Tulsa, Okla.—Presence of hydrogen sulphide gas in the lime wells of the Texas Panhandle call for the use of hose masks, training of men in proper use of safety methods and use of equipment, as well as the adoption of special well equipment for jetting gas away from drilling rigs, according to investigations of the Bureau of Mines.

H. C. Fowler and W. P. Yant have recently completed an investigation of the hydrogen sulphide content of gas in the Panhandle section, as well as at Big Lake and in the Crane and Upton County fields. Their findings are to be issued shortly in a bulletin of the Bureau of Mines.

This report was given in brief here September 17 to safety engineers and production men of the Mid-Continent by Mr. Fowler. The meeting was under auspices of the Petroleum Safety Council of the Mid-Continent Oil & Gas Association. Ray E. Miller, director of safety work for this association, in introducing Mr. Fowler asked for continued co-operation of operating companies with men of the Bureau of Mines.

It is likely that several safety meetings will be held in the Panhandle area, under direction of the Safety Council. If these are held, representatives of the Bureau of Mines will be present to outline proper methods for handling wells where gas has the hydrogen sulphide content to an extent that is dangerous.

Poison Gas

The report recently completed shows that wells producing from the granite wash do not have sufficient hydrogen sulphide to be harmful to workmen. From a safety standpoint, these wells are not considered dangerous on the hydrogen sulphide score. The amount of this in the gas coming from the lime above the oil or from the gas accompanying the oil is not more than .01 per cent. It has not distinct odor.

For wells producing from the lime, the hydrogen sulphide content runs from .2 to .65 per cent. The highest is in the Dixon Creek area. This amount of the hydrogen sulphide is extremely harmful when a man is in short contact with it and will bring death from continued contact with the gas.

So far as the investigation of Bureau representatives revealed, there have been no deaths from hydrogen sulphide in the Panhandle field. But cases of "gas eyes" and being "knocked out" are numerous. There have been numerous cases of serious bodily injury, due to workmen falling, after being overcome by the gas.

The most dangerous place for workmen on rigs is in the cellar. The greater number of the more serious cases of workmen being left unconscious has come while crews were installing Bradenhead equipment in the cellar.

Use Masks

It is for this operation that the Bureau of Mines recommends the use of hose masks. Many of the companies operating in the Panhandle provide this equipment.

Safety engineers consider the ability to apply methods of artificial respiration the most valuable bit of knowledge an oil field worker can carry about in his head. Artificial respiration will "bring a man back to life."

One of the hazards of the Texas Panhandle field is the presence of hydrogen sulphide in the gas. From it men get "gas eyes" and are "knocked out." When a man is "knocked out," artificial respiration will revive him.

Here is how the Bureau of Mines gives the methods of artificial respiration; the Schaefer method;

"Place the patient on his abdomen; remove from his mouth all foreign bodies; such as false teeth, tobacco, and gum; the tongue usually falls forward of its own weight, but see that it is forward; turn his head to one side and rest it on the forearm; so that the mouth and nose will not come in contact with the ground, and extend the other arm forward.

"If the person is thin, prepare a pad of folded clothing, blankets, or cloth, and place it under the lower part of the chest. Do not make this pad too thick. Do not wait to loosen the victim's clothing, but begin artificial respiration without delay. An assistant may remove all tight clothing from the victim's neck, chest and waist.

"Kneel, straddling the person's thighs and facing his head; the palms of the hands are placed over the short ribs with the thumbs parallel with the spine about two inches apart and your fingers spread out as much as possible, the ends of the little fingers reaching just below the last rib; with arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear on the person. This operation, which should take about two seconds; must not be violent, lest the internal organs be injured. The lower part of the chest and also the abdomen are compressed and the air is forced out of the lungs. Now immediately swing back slowly to remove pressure, but leave your hands in place, thus returning to the first position. Through their elasticity the patient's chest walls expand and his lungs are thus supplied with fresh air. After two seconds swing forward again and repeat deliberately about 15 times a minute, the double movement of compressing and releasing—causing a complete respiration in about four seconds. If a watch or clock is not available, follow the natural rate of your own deep breathing, swing forward with each expiration and backward with each inspiration."

The one caution to add to this is KEEP IT UP.

and its proper use has been found universally effective in preventing men from being overcome.

Where men are overcome, the report of the Bureau of Mines has these recommendations, which should be followed by crews:

First—get the victim to fresh air.

Second—Begin artificial respiration immediately and continue for at least three hours, as experience has shown that a man overcome by gas has a chance for regaining his breathing within that time.

Third—Provide medical attention as soon as possible.

Fourth—Give the victim oxygen, if available.

"But," added Mr. Fowler, "do not let the third and fourth of these keep workmen from keeping the artificial respiration work on a victim. Seldom is a doctor available instantly. Neither is it likely that oxygen is at hand. While waiting for either or both of these a man may die, when artificial respiration will revive him."

Use of Lung Motors

He also advised against the use of lungmotors, except at the hands of a physician, or an expert operator.

This type of treatment is for what the Bureau representatives term "acute" irritation. This applies to the nose, mouth and breathing organs.

"Sub acute" irritation is confined to the eyes and is known in the field as "gas eyes." For this the proper course is to see a physician.

Some of the concerns operating in the Panhandle are installing steam jets to prevent gas from escaping around a rig during drilling. These jets are installed below the derrick floor, between casing and drilling nipple. A pipe leads away about 100 feet from the derrick. Steam from the boiler injected into the jet forces the gas out through this pipe. Special construction is required for an efficient jet.

Representatives of the Bureau recommend use of a plug while drilling.

Drilling crews are cautioned about using judgment around a gassing well. They believe men often stand in the path of the gas when it is useless.

Four men have died in the Big Lake field from hydrogen sulphide.

I "Kin" Remember

For a matter of about a quarter of a century the collection of oil field photographs once owned by John Mather, the only photographer on the job during the early days, have been hidden in a cellar and unavailable. A short time ago they were resurrected and with the aid of some of the pioneers who still live around the old fields in Pennsylvania many interesting and heretofore unheard of narratives have been brought to light. This historical information together with the pictures is being published in The Oil Weekly.—The Editor.

OPERATORS in other fields seldom realize the terrific physical difficulties encountered by the Pennsylvania oil men—this photograph gives some indication of what they are up against.

Hills are not regarded as insurmountable difficulties by the Pennsylvania producer, the Pennsylvania driller. Regardless of the steepness of the grade—and some of the hills are so steep that they would fairly discourage a Rocky Mountain goat—the derricks march up—to the crest. Some trails, treacherous and winding roads twist around the side hills, in between great boulders, over stumps and over such miserable roads, derrick timbers, engines and boilers, stems and all the rest of the physical equipment must be hauled. Grading a site for the drilling rig becomes a great task—but it is done and when the derrick is erected, very often it would be possible for a man to step from one side of the derrick floor and light in the valley a half mile almost straight down. This, however, is seldom done.

Gid Morgan, the old minstrel tramp of the oil fields, used to say that the pigs in this country had slits in their ears and when they wanted to come down hill they merely sat down, shoved their hind feet through the slits and rough-locked themselves down at a moderate rate of speed that seldom exceeded seventy miles an hour. Gid was somewhat given to trifling exaggeration and his tale, one presumes, should be taken with several grains of salt.

But so long as the world needs oil the derricks will continue to march through and over the impossible places —over steep and rocky hills, adown the pleasant green valleys, through the

(Continued on page 74.)

TRIAL BY FIRE

proving the efficiency of Reid design

We quote the report of the Frick-Reid man at Wichita Falls, Texas, for December 17, 1925:

"Reid 20-ft. Band Wheel Power of Riner and Bailey—power building destroyed by fire but power not damaged. Power cleaned, band-wheel rim straightened."

"Utility of Reid dust ledges was proven beyond all doubt in this fire. Although power was buried in ashes and covered with dirt afterwards to extinguish blazing oil—when taken apart eccentric bearing surfaces (and shaft bearings also) were found to be absolutely clean of everything except caked oil, *no dirt, no ashes, no grit.* Owner remarked that the test proved Reid dustproof design to be very effective. Power was ready for operation again in 12 hours."

Your power may never go through a fire, but think of the protection that is afforded by the Reid Dust-Proof Design, *no dirt, no grit.* Only Reid powers have the oiling system and bearings totally enclosed."

Joseph Reid Gas Engine Company, OilCity, Pennsylvania, U.S.A.

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Say you saw it in The OIL WEEKLY

Beginning of Rotary Drilling Evolution Was to Handle Soft Formations in Texas

By Harry Pennington
Mechanical Engineer

WHILE the rotary drilling rig is a younger tool than the standard rig, still, Texas, as an oil producing state, began with the rotary and the real beginning of the rotary was in Texas.

As records show, the rotary dates back sixty years, when it was used for sinking water wells. There was no great demand for it; no great necessity; no need for sinking wells deep in soft formations, and consequently, no incentive to the development of the tool.

Texas' first real oil field was Corsicana, in 1895, the shallow field as it is now called.

The soft formation of this field made standard tool work difficult, but made the work very easily done with the rotary, and the rotary here received its first impetus as an oil field tool. Of course, various attempts were made in other parts of the country and in other parts of the world to use the rotary for well drilling but Corsicana was the first field to have as many wells drilled in such a short time and at as low expense for drilling and casing.

Even as early as this field, some very fast records of making hole were made, one record in the writer's possession shows a depth of 1010 feet reached in 42 hours.

First Ones Light

The rotaries used then, of which there may still be a few off of the same patterns, were 12-inch built of cast iron, very lightly constructed compared with today's rotaries, but their very lightness for that work made well drilling quickly done.

The rotary was brought to Sour Lake shortly after Corsicana developed, and shallow holes were drilled. And Capt. Lucas used the same type of rig, with a Corsicana crew, in drilling the discovery well of Spindletop. Immediately this well was in, there was shipped to Beaumont every known type of drilling rig, but only the rotary was able to handle these formations and pressures successfully, and the tool received an impetus that was to carry it around the world.

Followed by Sour Lake, Batson's Prairie, Jennings—in quick succession the rotary became the standard type of drilling rig for Gulf Coast drilling and it then began to receive the serious attention of the oil industry.

The writer will here say that if soft formations and high gas pressures could have been handled with standard tools, there would be fewer rotaries in the field today. But earlier fields demanded a mudding system to support the well wall and to handle high pressure, which called for development of this tool. Then, with improvements made in equipment and methods, it was learned that even in moderately hard formations and in wells where only a little rock was present, the fewer strings of casing required in rotary work made wells cost less, even though direct drilling costs were higher. And it is this characteristic of rotary work that first overflowed the rotary out of Texas.

Grip Rings

The pipe was at first gripped and turned with a pair of chain tongs driven by a tabe post but grip rings were soon added—four in number—to grip the pipe, and roll along the pipe to allow it to descend into the hole. To grip the pipe, these rings scored a groove along the pipe—something unheard of in today's practice. When a pipe coupling reached the grip rings, the ccupling was also scored. Couplings would spit down in the hole, and the rigidly fastened grip ring shaft was made movable vertically, to raise it above the coupling, then the rings were let down in the table after the coupling had passed.

Open grip rings did not present a smooth surface for elevators to rest upon, so a shrouded ring was developed, upon which elevators set evenly for we did not yet have slips.

The araw works had a 3-inch drum shaft, a single speed clutch and single narrow brake with wooden brake blocks; drive chains were malleable iron; the negine was 9x10 inches; the drilling pump 8x5x10 inches; and a single 35 horsepower boiler furnished ample steam. This was the original Texas model rotary drilling rig; it made many big wells, handled high pressures, and served to increase its general field utility.

Made Larger

When Jennings came in, and Caddo, a larger drilling rig was necessary, for these wells were deeper. The rotary was made in a larger size, 16-inch, the drum shaft increased to 5 inches; the brakes were made double and wider, the fast clutch added; the pumps increased to 10x5¾x12 inches; the boiler to 45 horsepower, making it possible to drill and set casing in still deeper holes.

This rig was termed a Louisiana model to distinguish it from its older, but smaller brother, the Texas model.

Following this, deeper holes in California called for a still heavier and more powerful rig and the rotary was made 20 inches, the drum shaft 6 inches, the pumps larger, the engine larger and every part of the rig including crown block, swivel, elevators, chains, hook, increased in size and weight to drill larger, deeper holes, and set larger and longer strings of casing.

The adaptability of the rotary to handling high gas, oil and water pressures made it a necessity in many fields but the inability of the rotary to cope with hard formations still prevented its use all the way down in many wells, resulting in the development of the rock bit. This development by the late Howard Hughes lowered rotary drilling costs materially, in hard formations.

Then in quick succession came the grief stem, first driven by the usual grip rings, then by the drive bushing; the tool joint, taken from standard tool work; ring and slips also from the standard rig, and many unsafe and expensive practices were eliminated.

Drill pipe was at first, just line pipe, followed by lap welded pipe with longer couplings, then by seamless drawn pipe, and finally by seamless drawn with upset ends, adding materially to pipe service.

Make and Break Rotaries

For screwing up, as well as unscrewing casing, and drill pipe, the make and break rotary is gradually coming into the field. These rotaries will screw up casing satisfactorily in every way when correctly operated, and the further development of technique in this respect will show improvement in handling pipe in the hole.

While the cathead tong method of making up casing is fast, still the make and break rotary is faster, and safer, when correctly done.

Coring

The art of coring in Texas was developed slowly, beginning in 1904; "samplers" were used at first, and as their value became evident, coring came into general use. The barrel used then, and extensively still, was the "common barrel," of pipe with saw teeth.

The improved core barrels of to-day reflect careful, intelligent study of a most particular need; the writer fully expects to see all prospect wells cored from top to bottom when a method is developed that will secure a good core without losing so much of it, and when the cost is lowered.

Mudding in High Pressures

For first finding, and then controlling high pressures, the rotary is preeminent. Many wells drilled on Spindletop, at Sour Lake, Batson, Jennings and Humble blew in, wild. The blowout preventer, a standard piece of equipment today on every rig in high pressure fields, enabled the penetration

(Continued on page 58.)

REX BEAM HANGER

TYPE "A"

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

Recent Survey Will Aid Search for Oil In Arkansas and Louisiana

Wildcat costs have been greater because of small knowledge of formation thickness

The Department of the Interior, through the Geological Survey, with the advice and cooperation of George C. Branner, State geologist of Arkansas, has just completed a geologic investigation yielding results that will be of practical interest to all geologists engaged in the search for oil and gas fields in southern Arkansas and northern Louisiana. In these regions the finding of hidden structure favorable to the occurrence of oil and gas has been hampered by the scarcity of information as to the variations in thickness and character of the buried Cretaceous formations, and uncertainties arising from this cause have added greatly to the aggregate cost of wildcat exploration. This article presents a condensed description of the Cretaceous formations which reach the surface in southwestern Arkansas, north of Red River and east of the Oklahoma line. It thus affords a guide to the interpretation of the logs of exploratory wells drilled in areas in southern Arkansas and northern Louisiana where these formations are under cover, and hence where they may contain oil and gas in commercial quantities if local structural conditions are favorable.

The field work on which this article is based consisted of a study of the Upper Cretaceous outcrops in southwestern Arkansas, supplementing work previously done by H. D. Miser. The investigation was carried out by C. H. Dane, with the advice and under the general guidance of L. W. Stephenson and with the assistance of P. D. Torrey.

THE Cretaceous formations of southwestern Arkansas consist largely of unconsolidated sand clay, and marl, with a few beds of limestone, sandstone and chalk. These formations rest on the planed-off edges of intensely folded and faulted Paleozoic rocks, such as crop out in the Ouachita Mountains, to the north. Both the Paleozoic floor and the Cretaceous beds dip south and southeast at low angles, and the Cretaceous formations exposed are thus successively younger coastward, dipping beneath the overlying Eocene beds along a line extending roughly through Fulton, Prescott, and Gurdon, Arkansas.

The Cretaceous formations of Arkansas and Texas have long been divided into a lower and an upper series of beds, known respectively as the Comanche and Gulf series, which are separated by a pronounced stratigraphic and faunal break. The formations belonging to these series now recognized in Arkansas and their stratigraphic relations are shown in the accompanying chart and are briefly described below in order, beginning with the oldest.

Comanche Series

Trinity formation.—The Trinity formation, described in detail by H. D. Miser in Geological Survey Bulletin 600, contains beds of gravel, sand, limestone, gypsum, and red or variegated clay.

Fredericksburg group.—The Goodland limestone is the only representative of the Fredericksburg group in southwestern Arkansas, where it crops out only north of Cerro Gordo, near the Arkansas-Oklahoma State line, and thence for a mile and a half eastward along the "breaks" of Little River. In these exposures the Goodland consists chiefly of hard gray sandy and irregularly thick-bedded limestone, some of which is in lenticles a few feet long and about a foot thick that usually lie at small angles with the normal bedding. Some of the beds consist of hard yellowish-gray calcareous sandstone. The upper 35 feet of the Goodland is exposed near Cerro Gordo, and its total local thickness is believed to be about 50 feet.

Washita group.—The Washita group is represented in southwestern Arkansas by about 20 feet of gray marl and hard fossiliferous beds belonging to the Kiamichi clay which outcrop above the Goodland limestone near Cerro Gordo. Fossils densely packed in hard layers a foot thick have been identified by T. W. Stanton as the characteristic Kiamichi form *Gryphaea navia* Hall.

Gulf Series

Woodbine sand.—The Woodbine sand in southwestern Arkansas consists chiefly of sand and gravel, much of which is water-laid volcanic material, with which are minor amounts of red and dark-gray clay. These beds are separated from the underlying Comanche series by a marked unconformity, in consequence of which they rest upon the Kiamichi clay along the Arkansas-Oklahoma line, whereas farther east, across Little River, as shown by Miser, they rest upon successively lower members of the Trinity formation. The sand and gravel of the Woodbine of Arkansas have already been partly described by Miser and C. S. Ross, and in a report now in preparation by Ross, Miser, and Stephenson they will be described petrographically in detail, and the basis for their correlation with the Woodbine sand of Texas will be given. The Woodbine includes the lower part of the "Bingen sand" as defined by A. C. Veatch in Geological Survey Professional Paper 46.

The Woodbine typically consists of soft olive-yellow cross-bedded sand in which grains of quartz, decomposed green volcanic rocks, glassy or kaolinized feldspar, and biotite are embedded in a matrix of bentonitic clay. There are several layers of cross-bedded gravel with large well-rounded cobbles of novaculite and of igneous rocks. In some beds these igneous cobbles are fresh; in others they are completely altered to soft clay. The base of the Woodbine is marked by a particularly striking but discontinuous gravel bed which rests on a very irregular erosion surface. The cobbles in this gravel consist dominantly of novaculite, but there are some quartzite and chert and a variable number of pebbles of soft decomposed igneous rock. The pebbles range from a fraction of an inch to four inches in diameter and average about two inches. This gravel and other gravels in the formation have the yellowish mealy clay matrix that is even more prominent in the sandy beds. Above the basal gravel and alternating with the soft, mealy yellowish sands are soft greenish sands in which most of the grains are composed of what was once igneous material, now altered to an apparently structureless green clay. The soft yellow and green sands contain concretionary lenses and beds of hard greenish calcareous sandstone in which quartz grains, clay grains, and novaculite pebbles are cemented by white crystalline calcite. The Woodbine also contains minor pockets and beds of massive red clay and of very dark gray plant-bearing clay.

Because of the superficial similarity of the sands of the Woodbine to those of the overlying Tokio formation, and because both the Woodbine and the Trinity contain red clay, it is frequently impossible to recognize the Woodbine in the ordinary driller's log, although its sands should be readily recognizable from drill cuttings because of their content of glassy feldspar (orthoclase), dark mica, and grains of altered volcanic rock.

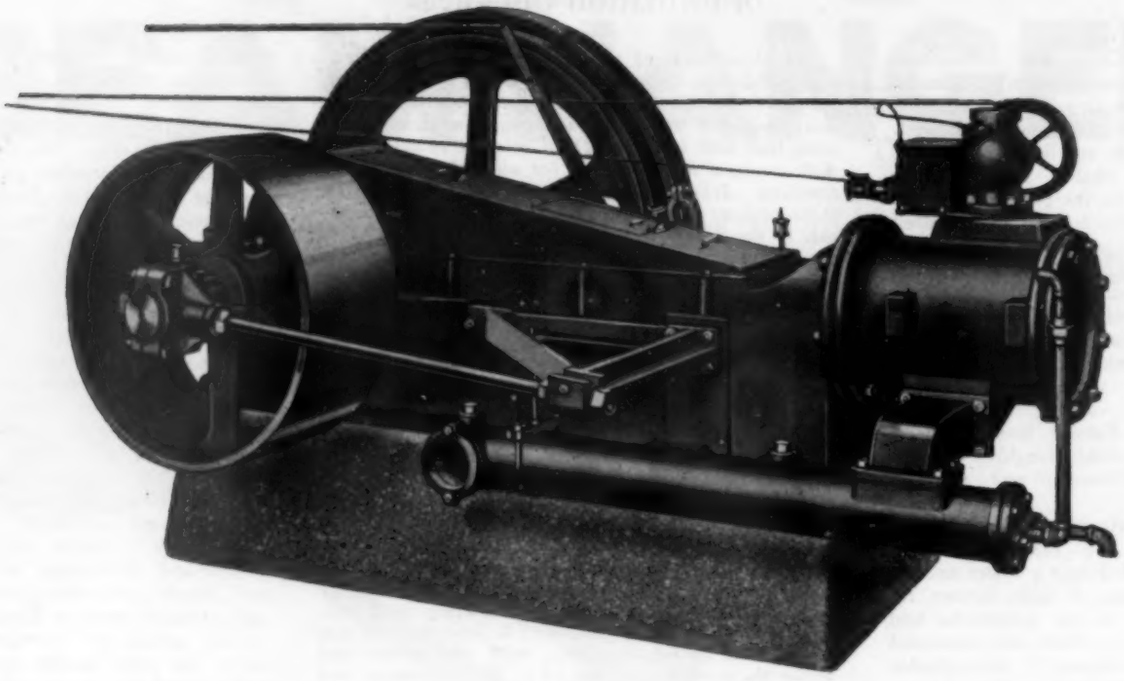
The Woodbine sand is between 250 and 350 feet thick in southwestern Arkansas, but is absent east of Little Missouri River.

The contact of the Woodbine and the Trinity is well shown 1.6 miles north of Horatio, in Sevier County, on the road to DeQueen; also 0.6 miles east of Lockesburg along the road to Center Point and two miles south of Lockesburg on the road to Ben Lomond. Some typical outcrops occur at Morris Ferry, on Little River, in section 15, T. 10 S., R. 32 W., three miles east of Horatio on the road to Dilworth, and at several places along the road from Lockesburg to Center Point.

Overlie Woodbine

Tokio formation.—The rocks herein

What Makes An



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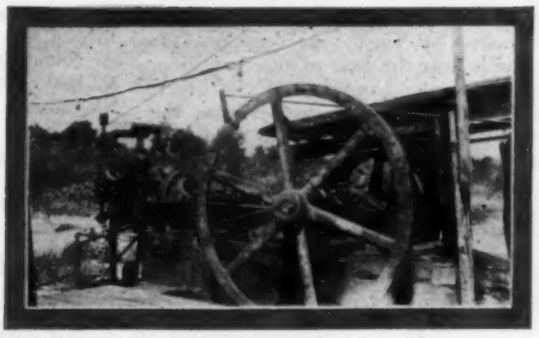


AJAX Snap Shots

"Still as good as new," says the owner of this old Ajax engine, Mr. C. G. Tibbens.

This Ajax, built in 1900, was first owned by the Devonian Oil Co. and was bought by Mr. Tibbens eight or nine years ago. It has recently drilled three 2300 foot wells for him in the Tibbens Pool south of Bristow, Okla.

AJAX ENGINES

STEAM ENGINES

Say you saw it in The OIL WEEKLY

designated Tokio formation unconformably overlie the Woodbine sand and correspond to the upper port of the "Bingen sand" as defined by Veatch. They include the Tokio sand member of the Bingen formation as defined by Miser in Geological Survey Bulletin 690 and the underlying heavy bed of gravel, which rests unconformably on the Woodbine sand. Along their outcrop they are composed principally of intertonguing beds of dark-gray lignitic, fossiliferous clay and cross-bedded gray coarse quartz pack sand which weathers yellowish and reddish. East of Saline River the Tokio formation consists principally of quartz sand and novaculite gravel; west of the river it contains an increasing amount of clay. Much of the dark clay contains abundant shell prints, but some of it is only sparingly fossiliferous. The Tokio also contains minor beds composed of reddish ferruginous fossiliferous sand, glauconitic sand with pebbles and shark teeth, white clay, dark leaf-bearing clay, highly lignitic clay, carbonaceous sand, and coarse novaculite gravel. At the base of the Tokio as here redefined there is a conspicuous and persistent gravel bed.

Three prominent tongues of the fossil-print bearing clay extend eastward, in addition to minor lenses and tongues of the clay whose relations have not yet been deciphered. These three major tongues are not sharply deliminited and terminated but finger out eastward. One tongue is near the base of the formation, just above the basal gravel. Another, which extends farther east, is near the middle of the formation. The third is at the top and carries large lenses of very hard calcareous fine-grained gray sandstone with numerous fossils, and also sandy clay and some glauconitic sand. It is believed that the two lower tongues coalesce toward the west and that the lower half of the formation consequently there consists principally of clay.

Correlates With Austin Chalk

On the basis of fossils found in the formation Stephenson correlates it with the typical Austin chalk of Texas. Toward the west both the upper part of the Tokio and the clay beds that form its lower part become less sandy, and where last well exposed in Arkansas they resemble, respectively, the Blossom sand and the clay that underlies the Blossom in northeastern Texas; so that apparently the Tokio is to be correlated with these two units.

Toward the east the Tokio truncates first the arkosic sands of Woodbine age and then successive members of the Trinity formation until finally it rests directly on the Paleozoic basement rocks.

The Tokio is about 300 feet thick from the vicinity of Nashville westward but thins eastward and is overlapped by the Brownstown marl.

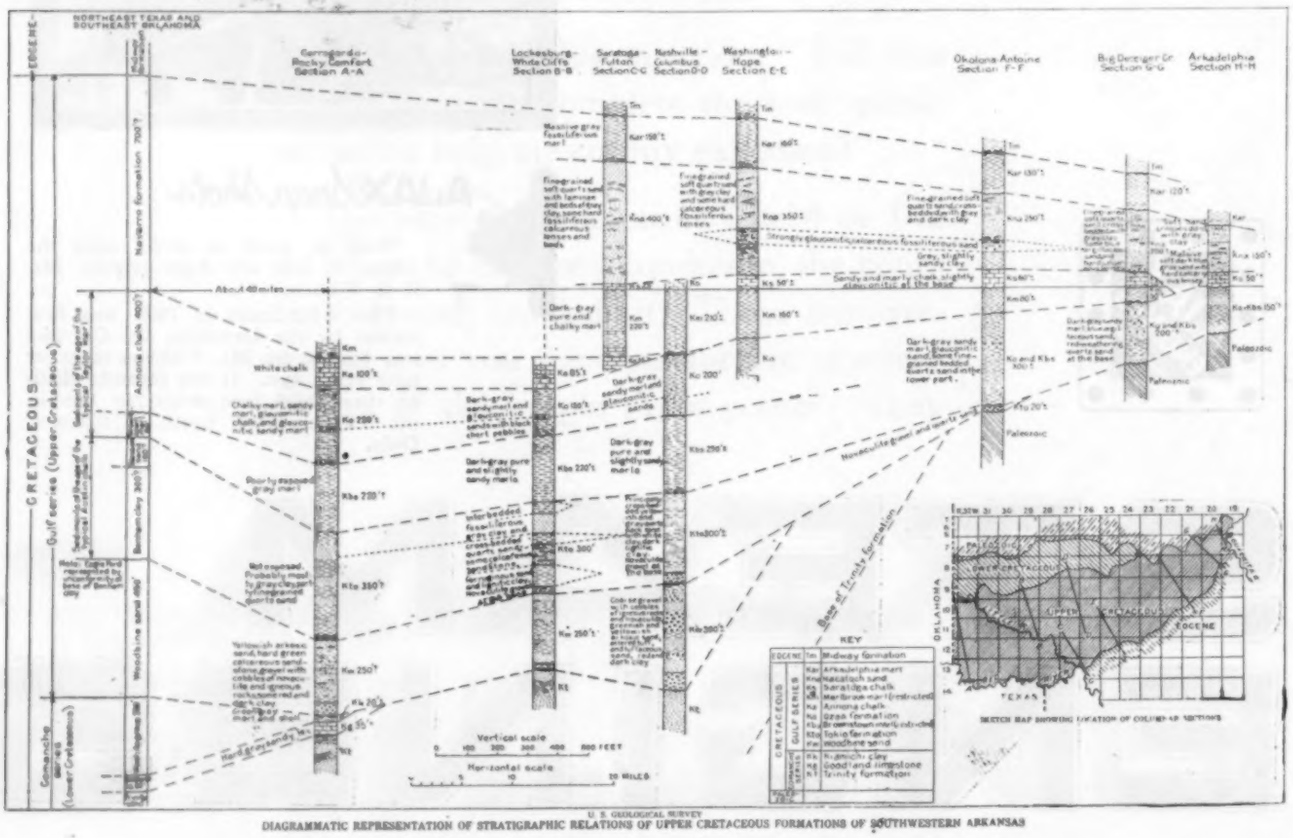
Typical outcrops of the sandy phase of the Tokio occur just west of Doyle in sec. 22, T. 9 S., R. 26 W., and 2.1 miles south of Nashville on the road to Washington. Typical outcrops of the fossiliferous clay are found 0.9 miles north of Ben Lomond on the road to Lockesburg and in the NW¼ sec. 10 and SE¼ NW¼ sec 22, T. 10 S., R. 29 W.

Brownstown marl (restricted.) — The Brownstown marl as here defined and restricted corresponds to only the lower part of the beds included in the Brownstown by Veatch in Geological Survey Professional Paper 46, the upper part of the formation as defined by Veatch being here separated as the Ozan formation for reasons given below.

The settlement of Brownstown, in Sevier County, stands on the uppermost part of the beds here referred to the Brownstown marl. Where typically exposed these beds consist of dark-gray calcareous clay or marl, which weathers very deeply and becomes light greenish gray and brownish gray. The unweathered marl may be nearly massive; the weathered marl usually shows distinct bedding. In many outcrops the marl contains a small percentage of very fine sand, but characteristically it is free from palpable sand. The contact between the Brownstown and the Tokio is a slightly irregular surface, and borings filled with sandy clay extend the Brownstown down into the Tokio. Locally within a few feet of the base are layers of hard, dense gray limestone that carry numerous poorly preserved fossils. Ammonites of Taylor age have been found in the lower part of the Brownstown, and the base of the formation evidently marks the base of the beds of Taylor age in Arkansas. The Brownstown marl completely overlaps the Tokio formation a few miles east of Antoine Creek.

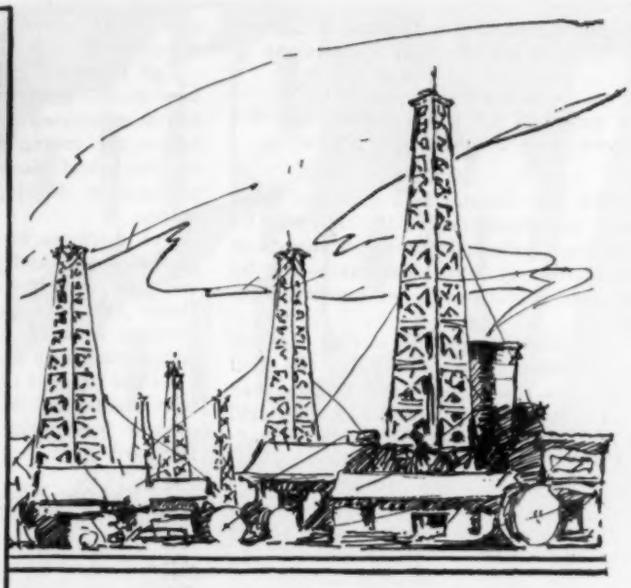
Eastward the formation becomes increasingly sandy. In the lower part there are beds that weather reddish, composed of fine-grained quartz sand-mixed with

(Continued on page 110.)



U. S. GEOLOGICAL SURVEY

DIAGRAMMATIC REPRESENTATION OF STRATIGRAPHIC RELATIONS OF UPPER CRETACEOUS FORMATIONS OF SOUTHWESTERN ARKANSAS



WHEN WIRE LINES GO WRONG

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WICKWIRE SPENCER STEEL

WICKWIRE SPENCER *PRODUCTS*

Beginning of Rotary Drilling Evolution Was to Handle Soft Formations In Texas

(Continued from page 51.)

of gas and oil strata safely for this device does control high pressures.

Strainer

The first Coastal field unconsolidated sand was Batson's Prairie, followed by Jennings, which demanded a means of separating oil from loose sand—met by strainer in various types marketed today.

The first method of setting strainer was to run it to bottom on the drill pipe, unscrew a left hand thread, then come out of the hole with the drill pipe and run a swage to expand a leaden collar on top of the strainer to seal between strainer and casing. But many wells blew in during this operation, resulting in a tool being devised to set and seal strainer without withdrawing the drill pipe—a distinct advance in high pressure work. This tool is now 22 years old but still has its first form.

In California, slotted pipe has come into use, the advantage of which is lower cost.

The strainer problem, as to separation of fines, for maintaining the oil sand to an open flow, does not yet appear to have been solved by all these devices; much remains to be done, as the writer sees it, toward a more efficient maintenance of the free inflowing quality of oil sands, whether loose, semi-consolidated or consolidated.

Cementing

The value of cement around casing shoes and casing was known early, but Coastal formations did not require cementing every well. Cementing methods of today—using barrier between mud and cement, using tubing run to bottom inside of casing, using a rubber ball that will float on cement, but sink in slush, and using the displacement method, have removed casing seat troubles, and many other troubles. It is now possible to place a given quantity of cement in a hole outside of the casing quickly and accurately.

The deepest commercially profitable drilling in Texas had been at range 4000 to 2800 feet.

The Standard Rig

The first field developed in Texas by the standard rig was Petrolia, Clay County. This development was shallow at first, then down to 1700 feet.

The work was done with 9x10 engines, 30 horsepower boilers, four-inch rig irons, three-inch strings of tools, and no underreamer.

The development of the standard rig has been carried on in all parts of the world and especial methods devised for especial work.

A majority of oil wells have been drilled with the standard rig; if it were possible to drill all wells with this method, as safey and at as low cost, as with other methods, there would be no other methods. The standard rig has also been improved materially, enlarged and made more powerful for deep, heavy work.

For handling gas pressures, the rotary mudding method, or "lubrication" has been devised; for enlarging the hole below the casing shoe, under-reaming in North and North-Cenral Texas formations is developed to an accurate stage.

For work as in the Ranger district, rigs with six- and seven-inch rig irons, and calf wheels, made those holes to about 3000 feet in 30 to 50 days, beginning with 18-inch and 20-inch and completing with a 6¼-inch oil string.

At the present time, the Amarillo district fields are being drilled for the greater part with the most modern standard rigs.

Electric Power for Drilling

Where electric power is available without great initial investment, many difficulties with steam boilers and water supply have been avoided. The electric motor manufacturers have co-operated completely to build motors for drilling with both standard and rotary rigs that will duplicate the flexibility of steam, and exceed steam in many characteristics.

Water supply—always a problem of quantity and cost—is made less of a problem. Usually, any class of water will suffice for the hole, and usually, some kind of water can be obtained, but, for boilers, water must be better than domestic water, and much expense is sometimes entailed in securing adequate supplies for boilers, while electric power eliminates much of this trouble.

Gas and Gasoline Engines for Drilling

For prospecting in out of the way places where transport is difficult, water bad or scarce, and where fueling is difficult and expensive, the multi-cylinder internal combustion engine has found its place. This type of prime mover is being applied indiscriminately to every type of drilling rig with success in sinking deep holes and setting long strings of casing, and the cost of drilling wells has been lowered substantially.

In view of the great savings made in cost, the writer expects to see this type of prime mover gain in number rapidly. This class of drilling has found its highest development so far on the Gulf Coast in salt dome prospecting and development.

Drilling Slush

The quality of slush for particular purposes has been investigated from many angles; carriage of solids, mudding off high pressures, mudding off loose sands have been improved materially and slush today is controlled more carefully for securing a better efficiency.

The drilling of a well involves an infinite number of variables; the solution of the many problems of well drilling makes it necessary to first reduce as many variables as possible to the same basis, then to understand all of them, to place operations on a rational basis.

Climax Engines Approved by Underwriters

A new bulletin describing Climax "R4U" and "R6U" Engines for driving 750 and 1000 gallon multi-stage centrifugal pumps, has been published by the Climax Engineering Company, Clinton, Iowa. These engines have recently been listed by the Underwriters' Laboratories.

The bulletin contains illustrations of the two models, horsepower curves made by engineers of the Underwriters' Laboratories, lists of equipment, and other engineering data.

Basically this engine is the same that has been previously used as power for cranes, shovels, gasoline locomotives, and kindred equipment. It has been equipped to meet the requirements of the Underwriters.

The model "R4U" engine is a four cylinder, 6x7 inch 100 H. P. engine with a maximum of 1200 R.P.M. It is listed for driving a 750 gallon fire pump.

The "R6U" is a six cylinder 6x7 inch 125 H. P. engine with a maximum R. P. M. of 1200. It is listed for driving a 1000 gallon pump.

Climax Engines may be purchased direct through the Climax Engineering Company, Clinton, Iowa, and their accredited dealers, or through the better-known pump manufacturers and their dealers.

A free copy of the new bulletin, known as Bulletin I, will be sent free on request.

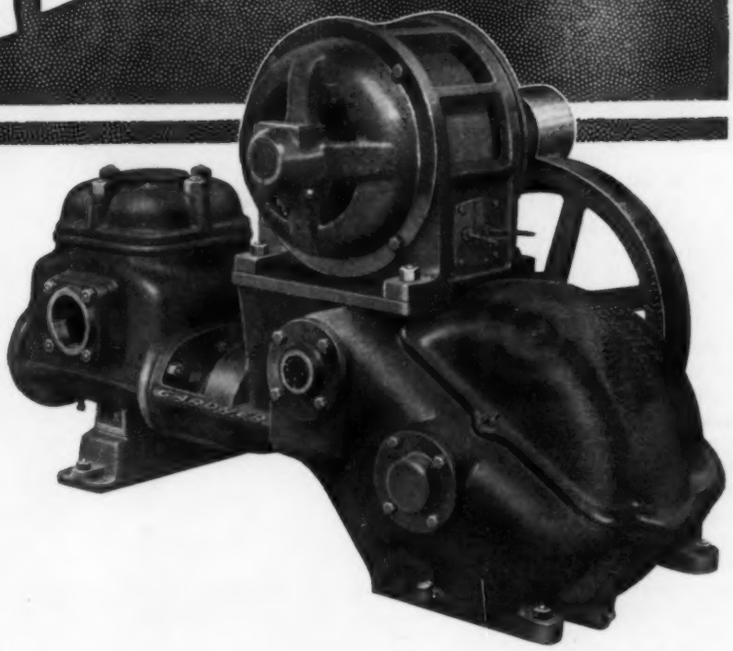
Hall-Will Catalog

Hall-Will, Inc., Erie, Pennsylvania, has announced a catalog and price list on their line of pipe, bolt and nipple threading machines. The catalog covers all the different products manufactured by this company, and stresses the Red-E-Hall portable electric pipe machine.

Copies of the catalog will be mailed to anyone on request.

J. S. Mellon, sales manager for the Dunn Manufacturing Company, Oxnard, California, has changed his field of operations temporarily and is making headquarters at Wichita Falls, Texas. He expects to be kept busy in the North and Central Texas territory for several weeks. During the past two years Mr. Mellon has spent much time in the Mid-Continent territory and has succeeded in building up a big demand for Dunn products. As a result of his efforts it has been necessary to locate a branch warehouse at Tulsa, where a complete stock of Dunn patented oil well tools and parts are carried.

Automatic Lubrication!



—MEANS several full days of labor saved on each pump each month. GARDNER power pumps require oiling ONCE each month in ONE place.

—MEANS perfect, even distribution of oil to all working parts, insuring longer life.

—MEANS another tremendously valuable addition to the GARDNER line of super-quality pumps.

"Quality Builders For More Than 65 Years"

OIL IT ONCE A MONTH

Pumps of all sizes and types for all services. Above: packed piston type, direct connected to motor.

THE GARDNER GOVERNOR COMPANY

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Atlas Supply Co., Muskogee, Tulsa and Fort Worth.
Emsco Derrick & Equipment Co., 67th and Alameda Sts., Los Angeles.
Kirk W. Eickelberger, Rialto Bldg., San Francisco.
Haywood Williamson Co., Shreveport.
International Supply Co., Stores in Principal Mid-Continent Fields.
F. W. Heitmann Co., Houston.
Norvell-Wilder Hardware Co., Houston, Beaumont and Shreveport.
Republic Supply Co., Los Angeles.

GARDNER GOVERNORS PUMPS-COMPRESSORS

GARDNER

Say you saw it in The OIL WEEKLY

PERSONAL MENTION-MEN YOU KNOW

Tulsa, Okla.—C. P. McKiezer, formerly with the Western Iron & Foundry Company and well known in the Mid-Continent territory has recently been appointed sales manager of the Reedy Auto Truck & Trailer Company. The plant is located on North Xanthus Street in Tulsa.

W. M. (Sam) Haynes, assistant chief engineer for the Marland Oil Company of Texas with headquarters at Fort Worth, passed out the cigars Monday along with the news that he is now the father of a boy weighing six pounds and two and three-quarter ounces. Sam insists on including the fractional poundage when describing the new arrival.

H. E. Clift, manager of the land department for Rycade Oil Corporation, returned to Houston last week after a business trip of two weeks in Omaha, Nebraska.

A. A. Hoyt, manager fuel oil department of the Richfield Oil Company, of Los Angeles, is out of the city for a few days on a business trip for the company.

Oscar J. Berend, in charge of the gas contract division of the Skelly Oil Company, has resigned, effective September 30.

Wendell M. Smith, assistant general manager of the E. J. Miley Oil Company of California, is convalescing from an appendicitis operation.

The Creole Syndicate, because of acquisition of Venezuela, Inc., in the operation of the La Novedad lease becomes a partner of the Standard Oil Company of California. This lease covers 75,000 acres in the District of Perijaon on the shore of Lake Maracaibo.

R. W. Wingo, assistant to the general superintendent of Crown-Central Oil Corporation, Houston, is back from a two weeks vacation spent in North Texas.

E. Call Brown, formerly chief geologist of the California Petroleum Corporation, Los Angeles, has recently resigned his position to engage in the practice of consulting engineer in Los Angeles.

Charles M. Block, assistant during the past summer to Mrs. L. L. Weinzierl, paleontologist for the Marland Oil Company of Texas, Houston office, has departed for Columbia, Tennessee, to enter Columbia Military Academy, where he expects to be graduated this session.

M. E. LOMBARDI
assistant general manager of The California Company, which is one of the large lease owners and producers in West Texas, with headquarters at San Francisco, California.

L. P. St. Clair, vice-president and P. N. Beggs, assistant general manager, of The Union Oil Company, of Los Angeles, California, have returned to Los Angeles headquarters after a five weeks' tour of the northwest.

Gene Collins, Louisiana and Arkansas representative for the D. & B. Pump Company of California, was married September 8 to Miss Ruth Boyd of Connecticut.

Harry Howard, of the Reed Roller Bit Company of Houston and Los Angeles, is at the Los Angeles headquarters of the company where he will remain until about the first of November.

Wayne Elliott Williams is the seven pound son of Wayne C. Williams, member of Vacuum Oil Company's scouting department, Houston. Wayne is a good scout in more than the literal sense of the word. Here's hoping young Wayne's first words are not "How deep are you?"

D. F. McMahon has returned to Tulsa from a vacation spent at Bemedji, Minnesota. He was formerly general manager of the Southwestern Petroleum Company.

C. R. Thomas, for the past seven years geologist of the Amerada Petroleum Corporation, has resigned and will engage in consulting practice. He is located at 314 Clinton Building, Tulsa.

Thomas H. Wheeler, former purchasing agent of the Standard Oil Company, died September 15, at his summer home, Wau Wi Net, on the St. Lawrence.

Russell B. Hodgson, geologist for the Associated Oil Company, of Los Angeles, has returned from a two-weeks' sojourn in the Seal Beach field where he inspected the properties of the Associated Oil Company on the Hellman Prospect acreage.

Tulsa, Okla.—In the Wildcat Jim field, Carter County, the Iowa Oil & Refining Company's No. 3 Watkins, northeast of the southeast of section 7-2s-2w, has been completed for 1000 barrels in sands from 1908 to 2667 feet.

Dr. Donald C. Barton, chief geologist for Rycade, has returned to Houston after a visit of three weeks to New York.

Plan Welding Exposition

Buffalo, N. Y. — An International Welding Exposition will be held in connection with the Annual Fall Meeting of the American Welding Society here November 17, 18 and 19, in the Broadway auditorium.

The technical session will include authoritative papers, exhibits and discussions on all branches and conditions of the welding science.

Arrangements have been made as to entertainment features which will include an inspection trip to Niagara Falls and a dinner dance at the Hotel Statler.

S. G. GASSAWAY

former Assistant Manager of the Commercial Department, O. G. & E. Company, has recently become General Manager of the Petroleum Rectifying Company of California but will not begin his regular routine of office until October 1. He is a graduate of the University of California, in Mechanical, Electrical and Hydraulic Engineering. Shortly after his graduation he went to work in the oil fields and ever since has been identified in some way with the Petroleum Industry. Gassaway was one of the first to apply electricity to this industry.

W. E. Youle Dies

Los Angeles.—The recent death of William E. (Billie) Youle, of Los Angeles, California, at the age of 80 years, marks the passing of one more of the few remaining pioneers of the oil industry.

W. E. Youle was born in Pontiac, Michigan, and began his career in the oil fields at the age of sixteen, in the fields of Pennsylvania. He came to California and drilled the first well near San Jose in 1879, later operating at Pico Canyon, Newhall, Puente Hills, Los Angeles, Whittier and other California fields.

A few years prior to his death Mr. Youle perfected and patented a casing spear and an underreamer which are widely used.

Mr. Youle is survived by a son and a daughter, of Los Angeles.

Richfield - United Merger Announced Formally

Los Angeles, Calif.—Formal announcement has been made by the Richfield Oil Company of California of the merger of that concern with the United Oil Company, of California. The merger involves the sum of $60,000,000 and a readjustment plan is being worked out whereby holders of first mortgage and collateral trust 6½ per cent convertible bonds and six per cent gold notes of the United Oil Company may be exchanged for Richfield Oil Company stock.

Captain Barbour Entertains at Plantation Home

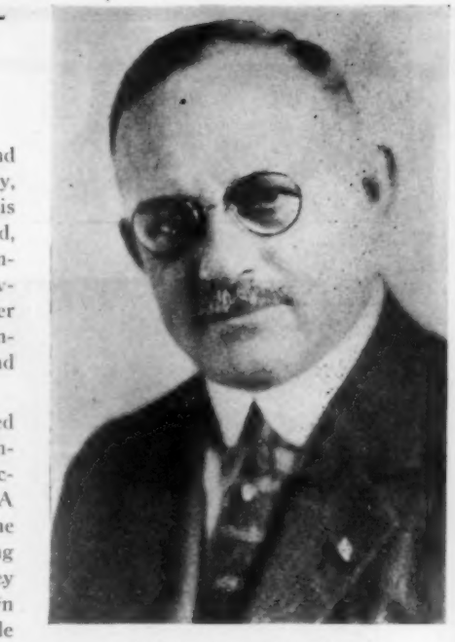
Captain C. A. Barbour, president and owner of the Barbour Oil Company, Houston, was host to 35 friends at his Oaklawn plantation home, Irish Bend, Louisiana, on Labor Day. The personnel of the group of guests included several members of the oil industry together with representatives of many other industries from various parts of Texas and Louisiana and from Tampico.

The Labor Day celebration is described by all the honor guests in a single opinion—as no doubt the most novel and successful party ever staged in the South. A special Pullman car was chartered by the Captain to run out of Houston, carrying his guests to Irish Bend. There they were met by automobiles from Oaklawn Manor. The Captain's private nine-hole golf course, reputed to be among America's finest, was christened on the day following the arrival of the guests by a tournament. This was followed by a barbecue at which more than 300 other guests were present.

Oaklawn Manor is the result of desires created in the early days when Captain Barbour piloted his fathers old river tug on the Mississippi River. His great hope was to some day own a home typical of the old colonial Southern plantation home. During Tampico's early boom he went there and established a towing company, which later grew into one of the largest in the world.

Early this year Captain Barbour bought Oaklawn Manor and started plans for reconditioning it into first class shape, retaining all of the colonial touches. But circumstances altered the plans. Only a few days after the purchase the home was demolished by fire with the exception of its walls. Defying misfortunes, the Captain employed 250 men to reproduce the old manor as nearly as possible like the original. The accompanying photograph is the result.

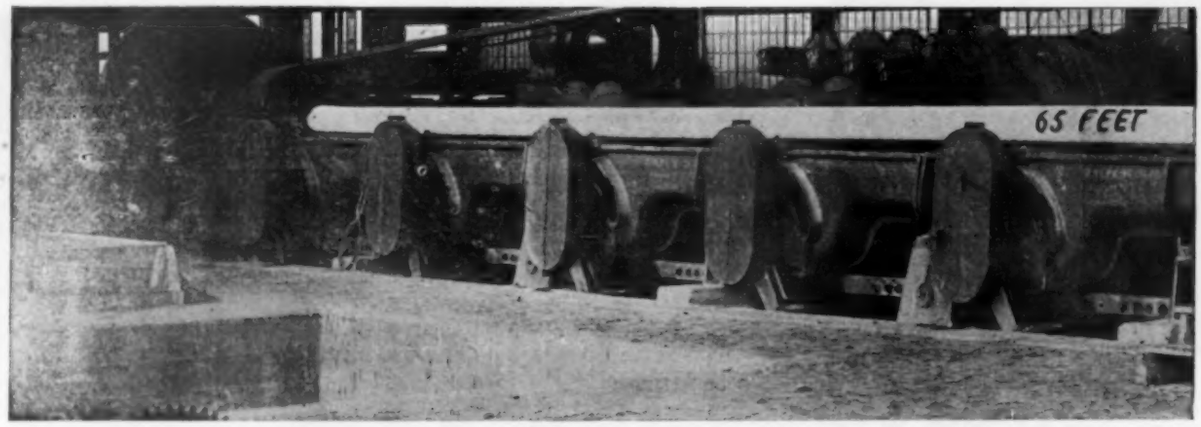
Captain Barbour is a lover of antiques, and the furnishings of Oaklawn Manor are almost entirely made up of articles uncovered in various parts of the world by the Captain in his recent travels.



CAPT. C. A. BARBOUR

Oaklawn Manor, colonial plantation home at Irish Bend, St. Mary's Parish, Louisiana, where Capt. C. A. Barbour entertained more than 300 friends on Labor Day. Capt. Barbour is shown teeing off the No. 1 hole in the golf tournament that christened his private course, said to be among the most beautiful in the United States.

ANNOUN



Marvelous New Pilger Mill in One Continuous Operation Manufactures Cast Ingots Into Finished Seamless Steel Tubes Up to 12 In. Diameter and 50 Ft. Lengths

THE installation of this giant new Mannesman Pilger Mill was completed a few weeks ago, has been thoroughly tried out, and is now in full production. It was manufactured to our specifications and is housed in modern new buildings covering an area approximately 270 ft. x 800 ft. built expressly for it. Rarely is a complete mill unit completely designed and installed under such favorable conditions for quality and efficiency of production.

First Such Installation in America

It is the first seamless tube mill of its type and size to be installed and operated in an American plant. It is capable of turning out a tremendous tonnage of the finest quality seamless steel tubing in sizes ranging from six inches to 12 inches outside diameter, and in lengths up to fifty feet.

From Solid Ingot to Finished Tube

An extraordinary feature of this mill is that it successfully pierces a solid cast ingot, and in one continuous operation turns it out as a finished tube of large size. The ingots are all bottom cast, and the severe distortion to which a steel blank of this size is subjected in the piercing mill can be withstood only by the finest quality of steel. The rough hollow billet that comes from the piercing rolls therefore has passed a supreme test of its quality and soundness.

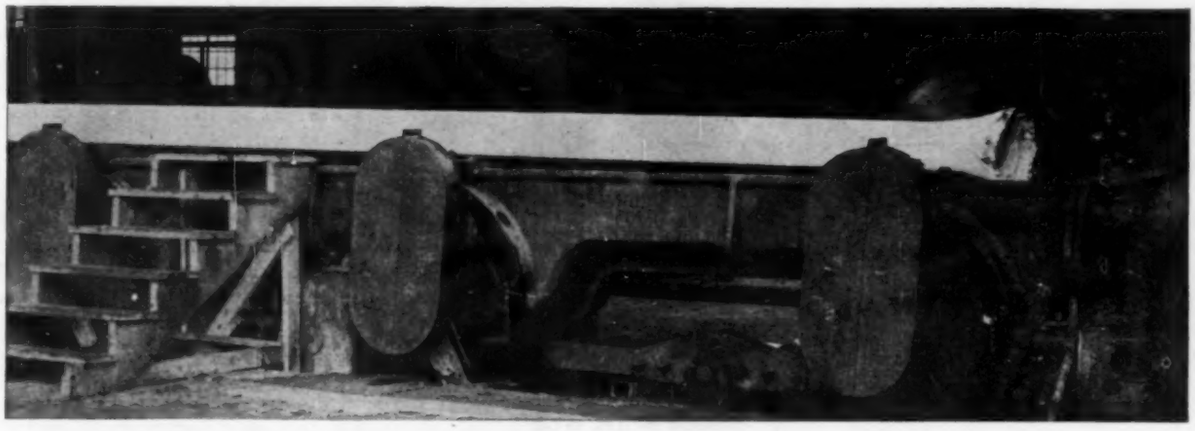
The round solid steel cast ingot leaving heating furnace for piercing mill

Pittsburgh Steel

Pittsburgh

NEW YORK
DETROIT
CHICAGO

CEMENT



Pilgering, a Forging Process

IN pilgering, the unfinished part of the hollow billet is repeatedly forced between the eccentric pilger rolls which seize, compress, and force the billet back. At operating speed this becomes hammer-blow action on the steel, the same as a forging hammer. The thick walled hollow billet about 8 feet long is thus pilgered (forged) into a tube of the desired wall thickness and in some cases, as in the above illustration, 65 feet long (before the ends are cropped).

Thus the superior quality steel which has passed its first test in the piercing operation is converted into a tube of the excellent texture that is a characteristic of pilgered steel. The pilgered tube now passes to a hot saw, the crop ends taken off, then to the sizing mill, cross rolls, and various cut-off and threading machines for the finishing operations. For certain finishes the pilgered tube is reheated and passes through a reeling machine before reaching the sizing mill.

A Boon to Oil Country Operators

These superior quality seamless steel tubes in large sizes and lengths for casing, drill pipe, etc., with their greater strength and elastic limit prove of wonderful advantage in oil country activities. Manufacturers in other industries also, are placing orders for material from this new mill. We have, of course, other seamless steel tube mills and manufacture boiler tubes, arch tubes, superheater flues, and tubing for automobile and other mechanical purposes. Your inquiries will be appreciated and our engineers will gladly give study to the possible application of "seamless" to your problems.

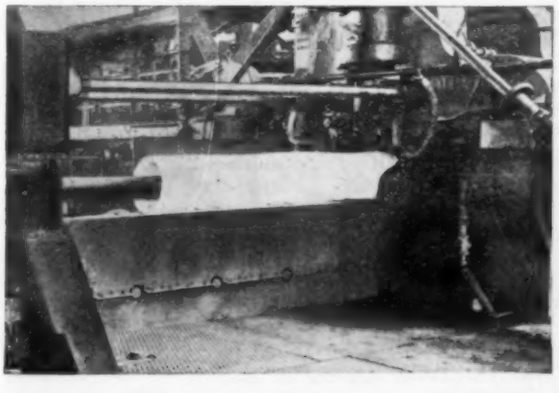
Products Company

Pennsylvania

Second National Bank Building
HOUSTON, TEXAS

Atlas Life Bldg., TULSA, OKLA.

Pacific Coast Distributors
BUCK & STODDARD
Los Angeles, Cal.



The rough hollow billet emerging from the piercing mill

Texas Panhandle Production Reaches 120,870 Barrels From 427 Wells

Hutchinson County gas pressure falling off; Carson County wildcat not up to expected flow

Amarillo, Texas. — Daily production in the Texas Panhandle was boosted to a new peak level during the past seven-day period when 427 flowing, swabbing and pumping wells produced 120,870 barrels, or 283 barrels per well daily. This represents a gain of 3300 barrels above the previous week's totals and most of the increase came from Hutchinson County, which averaged 112,130 barrels daily from 355 producers. The high point of production in Hutchinson County has not been reached, as the county reported 234 active tests at the close of last week that will be added to the producing list within the next two months, besides 52 shut downs, 99 rigs and derricks, and 28 locations. However, the gas pressure accompanying the oil flow in Hutchinson County wells is beginning to recede in volume.

The Roxana Petroleum Corporation's wildcat oil producer on the E. F. Bryan farm in upper Carson County did not make its expected big flow early this week when opened up and cleaned out to the bottom after being shut in for storage. This well was reported last week as having flowed 100 barrels of 38 gravity pipe line oil during a two-hour gauge after drilling sandy-lime pay at 2174-78 feet, with every indication of being a big producer. The well was shut in pending the erection of a large amount of tankage, while the owners went after more lease protection in the meantime. The well was opened up early this week and flowed 130 barrels during a 24 hour gauge after cleaning to the bottom. It will be agitated as a final effort to revive the big flow while deeper drilling will be resorted to as a final effort.

Nearby acreage to the Roxana discovery well, which is located in the center of the SE NW NE of section 92, I. & G. N. survey, block 4, and about ten miles from production of any consequence, commanded premiums shortly after the well was drilled in. Roxana purchased the south half of the southeast quarter of section 106, located a half mile northwest of the producer, paying $1000 per acre cash, and agreed to start a test, while J. T. Parks and others are credited with having paid $1000 per acre cash and $750 per acre out of one-third of the oil produced for the east 50-acre lease in the north half of the northwest quarter of section 92, besides contracting to drill promptly. McMan Oil & Gas Company and McCullough et al are also reported to have made locations on nearby acreage, while Marland is moving in materials to drill in the northeast corner of its lease in the southeast quarter of section 92.

Magnolia Petroleum Company owns six sections in fee directly west of the Roxana producer, and will probably start a test shortly, although The Texas Company and Empire Gas & Fuel Company hold leases on some of the Magnolia fee land, which was purchased by Magnolia several years ago at $12.50 per acre.

2400 Barrel Well

The Canyon Oil Company of Seminole, Oklahoma, scored the largest oil producer in the Hutchinson County field during the past week when its J. A. Whittenburg 4, section 12, gauged 2400 barrels during the first 24 hours after shot of 90 quarts in sandy-lime pay at 2845-65 feet. The Relief Oil Company's Smith 4, section 11, made 800 barrels initial after shot of 220 quarts at 2732-90 feet, while a similar sized producer was completed early this week by S. D. McIlroy's Smith 2, section 14, after placing a shot of 100 quarts at 2960-3004 feet. Gulf Production Company, Walter Cline and Panhandle Refining Company's C. L. Dial 24, located on the north side of the Canadian River, flowed 1085 barrels after being shot with 40 quarts at 2772-2812 feet.

Gulf has begun tank car shipments of crude from its pipe line terminal and tank farm at Panhandle to Port Arthur at the rate of 10,000 barrels daily, and as a result of this movement of crude the company was preparing to drill in and shoot more than a dozen tests in Hutchinson County that had been shut down for storage. Gulf has completed its first producer in the Wilcox-Pampa field, Gray County, and is selling the crude to Humble.

A mile extension to the west of the Wilcox-Pampa field was promised early this week from Young & Osborne et al's A. Holmes 1, located in the southeast corner of the northeast quarter of section 106, block 3, as this test began filling up with oil after drilling sandy-lime pay at 3061-66 feet. A string of 6⅝-inch casing was set Tuesday to drill in.

Wilcox Oil & Gas Company's Worley-Reynolds 11, located in the northwest corner of section 62 and considered an almost sure shot for production, failed to get more than small showings of oil in sandy-lime at 2928-36 feet and 3170-80 feet, and was down to sea level depth, 3282 feet, early this week. This test is a southeast offset to production, and about a half mile from the largest producer in the field.

Panhandle Field Summary

Amarillo, Texas.—Condensed summary of field operations in the Texas Panhandle district at the close of last week is listed below by counties, with comparative totals for the previous week:

	Completions	Active Tests	Shut Down	Rigs and Derricks	Locations	Totals
Armstrong Co.	..	1	..	..	..	1
Carson Co.	3	19	2	5	2	31
Childress Co.	..	1	..	..	..	1
Cochran Co.	..	..	..	1	..	1
Collingsworth Co.	..	1	1	1	1	4
Dallam Co.	..	1	..	..	..	1
Donley Co.	..	..	1	..	..	1
Gray Co.	1	82	6	12	3	104
Hansford Co.	..	1	1	..	..	2
Hartley Co.	..	3	3	2	2	10
Hemphill Co.	..	2	2	1	1	6
Hockley Co.	..	1	..	..	..	1
Hutchinson Co.	23	234	52	99	28	436
Lamb Co.	..	1	..	..	..	1
Lipscomb Co.	..	1	..	1	..	2
Moore Co.	..	8	4	1	..	13
Ochiltree Co.	..	1	3	..	..	4
Potter Co.	..	2	..	2	2	6
Roberts Co.	..	2	3	1	..	6
Sherman Co.	..	1	1	1	..	3
Swisher Co.	..	..	1	..	..	1
Wheeler Co.	..	10	5	6	3	24
Totals	27	372	85	133	42	659
Totals for previous week	27	348	102	143	41	661

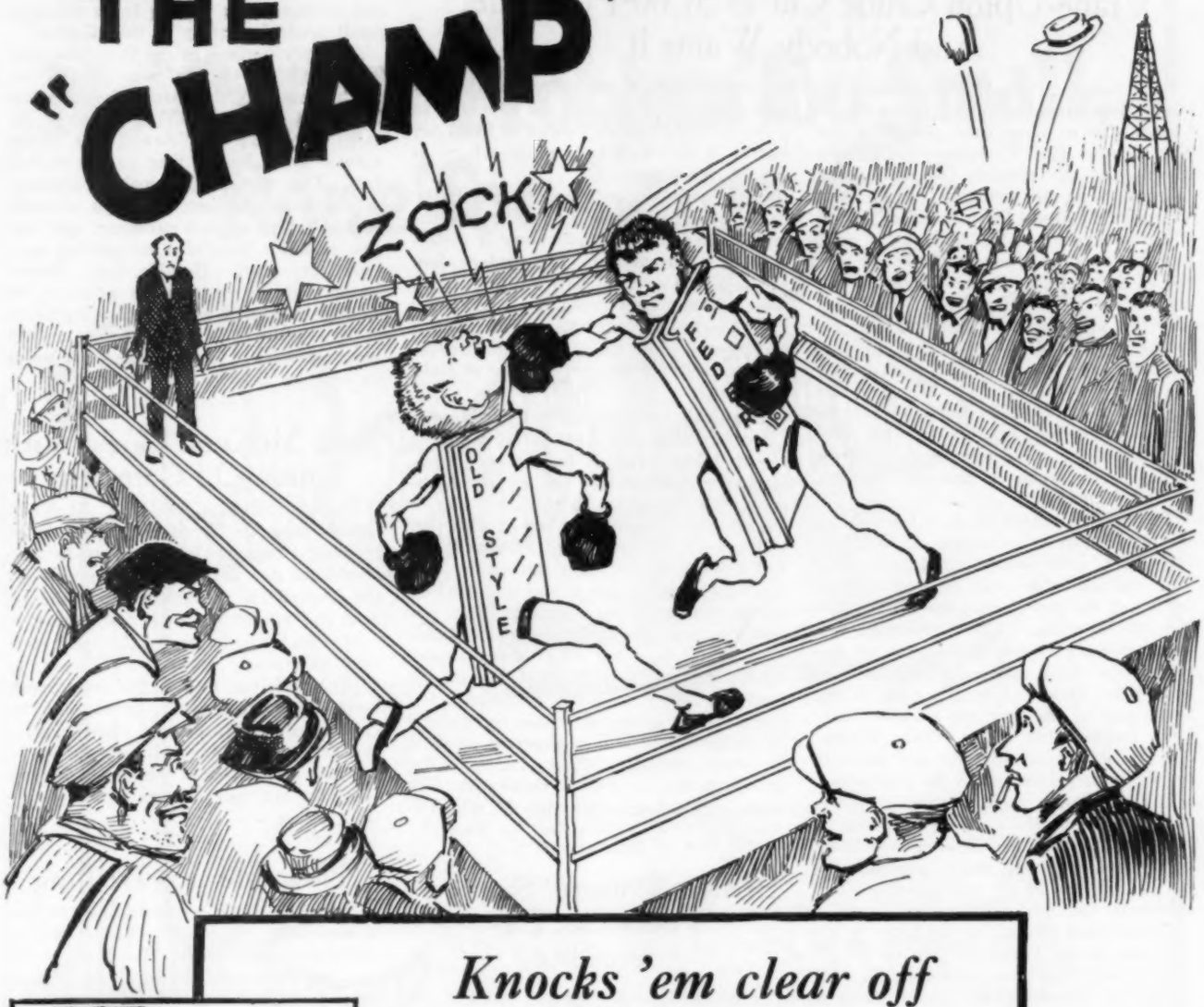
Will Drill Wildcat Test North of Olinda

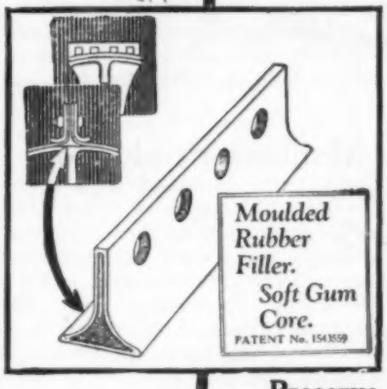
Los Angeles, Calif.—E. L. Cragen, well known Los Angeles Basin operator, will drill a wildcat well about four-and-one-half miles north of Olinda townsite in Section 6, Township 3 south, Range 8 west.

Cragen's enterprise will be located about one mile north of the old Jameson well which is shut down at 3840 feet, due to lack of drilling water. Jameson's well, which is in a formation of hard sand, has slight showings at about 3100 feet and set eight-and-one-fourth-inch casing, but the test was negative so far as commercial production is concerned.

Cragen's test well is located in a vicinity where outcroppings of oil sand are numerous and well distributed. The neighborhood, however, is not considered very promising.

THE "CHAMP"





Knocks 'em clear off the lease!

NO room for "old timers," "has-beens" or "boot-leggers" on YOUR lease if you put the FEDERAL to work.

FEDERAL BELT CLAMPS

Preserve your belts and prolong their lives. Old style belt clamps ABUSE your belts and COST YOU MONEY.

Order from your supply store

FEDERAL SUPPLY COMPANY

Manufacturers

Fort Worth **TEXAS** **Mexia**

Crane-Upton Crude Cut to $1.00 Per Barrel And Nobody Wants It

San Angelo, Texas.—Restrictions on crude purchases in the Crane-Upton County district have been placed by the Kay County Gas Company (Marland's buyer) and the Humble Oil & Refining Company since the reduction of prices on all grades of crude forty cents per barrel effective September 15. The lower price schedule nets the producers $1.00 per barrel at the well, since the district is averaging 29 to 29.9 gravity oil, but even with this price in effect the buyers are refusing to take all oil offered. The curtailment of crude buying in this district has already caused some of the operators to hold back on their development program and pinch in production, while several others are going to erect tank farms to store the crude in the field until a market is available.

The current output of the Crane-Upton County district is in excess of 7000 barrels daily, with enough production held back and available from tests shut down on top of the pay to give the district 10,000 barrels daily. This production has been growing rapidly lately due to the completion of big producers ranging from one to five thousand barrels flush in the lower part of the lime pay horizon. Marland, Independent, Dixie, Texas Pacific, Texas, Gulf, Sun, Roxana and Humble are the principal owners of the production, and even though each of these concerns are engaged in the refining business, or have plants, none are showing any desire to try and refine the crude, although the oil yields above 20 per cent gasoline when skimmed.

Competition offered by the better gravity crude in the Panhandle district on the open market has interfered with the selling of the Crane-Upton County crude, as Marland and Humble, who have been the only buyers of the Crane-Upton crude, report that there is no market for the oil when delivered to the Gulf Coast. Other than 50,000 barrels turned over to The Texas Company at Texas City on an exchange proposition, Marland has all the oil that it has shipped out of the Crane-Upton district in tank cars to Texas City terminals.

Offer to Store

Both Marland and Humble are offering to store any quantity of crude for the producers in the Crane-Upton County district, while Humble is at work in extending its Big Lake trunk line, a distance of about 40 miles, to its two 55,000 barrel tanks near McCamey. Marland has been taking most of the production, but during the past week cut down its purchases to about 5,000 barrels daily, including that run from Marland's various leases in the district. Marland is offering to gather and deliver in tank cars any amount of crude the producers care to store in tanks at Kemper, near the Big Lake field, or at Texas City. Twenty cents gathering charges will apply on getting the crude in tank cars, and if the crude is shipped to Texas City the freight rate will be 59 cents, besides five cents terminal charges at the point of delivery, thereby making a total expense of 84 cents in getting crude that is valued at $1.00 per barrel at the well to a point where it can be marketed.

Gulf is due to complete its first 80,000 barrel tank in Crane County about the middle of October, while work is underway on a second one. The Independent Oil & Gas Company will build three or more 55,000 barrel tanks immediately on its properties in order to avoid a general shut down, while the other large producers are expected to start moving in tankage shortly.

The Dixie Oil Company's E. S. Hughes 7, a west offset to a 1400 barrel producer reported last week as having been completed by Independent Oil & Gas Company, blew in early this week after drilling one foot of soft lime pay at 2315 feet and gauged 620 barrels of 28 gravity oil and 150 barrels of water during the first five hours, and at last report was holding at 60 barrels of fluid per hour (25 per cent water) through one-inch choke. This is the third big oil producer scored by Dixie in the field, but the first on the Burleson 160-acre lease. Marland Oil Company is setting the pace on drilling in the field, and is now shooting most of the small producers before placing on the pump. A test for deep production is to be made by Marland's Burelson 34, which is scheduled to go to 3200 feet, or lower.

Brown County Shallow Pools Get Extensions

Cisco, Texas.—Extensions made to the Lester-Fry and Gibson-White shallow pools in Western Brown County during the past week will have a stimulating effect on drilling operations. The Amerada Petroleum Corporation extended the Lester-Fry pool about one-quarter of a mile to the east with an initial flow of 325 barrels natural after drilling six feet of oil sand to a total depth of 1311 feet from its first test on the J. W. Fry 75-acre lease, George Stubblefield survey. Amerada's M. E. Fry 2, located on the northwest side of the pool, proved dry at 1369 feet, and has been abandoned.

Sawyer-Gibson et al's White 1, located in the northern end of the N. B. Vernon survey and a southwest offset to Gibson Oil Corporations' discovery well on the White land, made 360 barrels initial after a shot of 40 quarts at 1214-45 feet. The new completion establishes the area as an important source of production, as the discovery well made a small pumper when completed several months ago, Sinclair Oil & Gas Company's Shore 1, located in the southeast part of the J. C. Ryan survey, and west of the discovery well on the White land, is showing for a 45 barrel producer after drilling pay formation at 1209-32 feet, and may be given a shot before going on pump. The Gibson-White pool is about one and three-quarter miles southeast of the Lester-Fry pool, and operators are playing for a series of small producing areas in this district.

A deeper horizon in the Woodson field, Throckmorton County, was proven for production early this week when the Red Bank Oil Company's Wm. Elliott 1, located in section 974, flowed 130 barrels natural from brown lime pay at 4129-33 feet. This test failed to make a producer in the 3900-foot lime, although a southeast offset to a good producer, and was just taking a long shot on picking up a lower pay level. Humble, Gulf, Reiter-Foster Oil Corporation are preparing to drill to the lower pay after having failed in the expected producing horizon at 3900 feet, while Red Bank is also deepening its Parrott 3.

Jack McKeon Goes With Union Oil Company

Los Angeles, Cal.—Jack McKeon, formerly at the head of the McKeon Drilling Company has been made vice-president in charge of production for the United Oil Company since the recent merger of the two companies.

Mr. McKeon is one of the most popular operators in the California oil fields, as well as one of the most prominent independents. Throughout his career in California he has evinced the type of daring and courage in petroleum development which has created for him an enviable position among oil operators.

New Mexico Drilling

Santa Fe, N. M.—There has not been a noticeable change in the number of drilling operations in New Mexico during the summer. Several wells have been abandoned but this fact was offset by many new locations. The winters are usually mild and activities are expected to hold up better than last year.

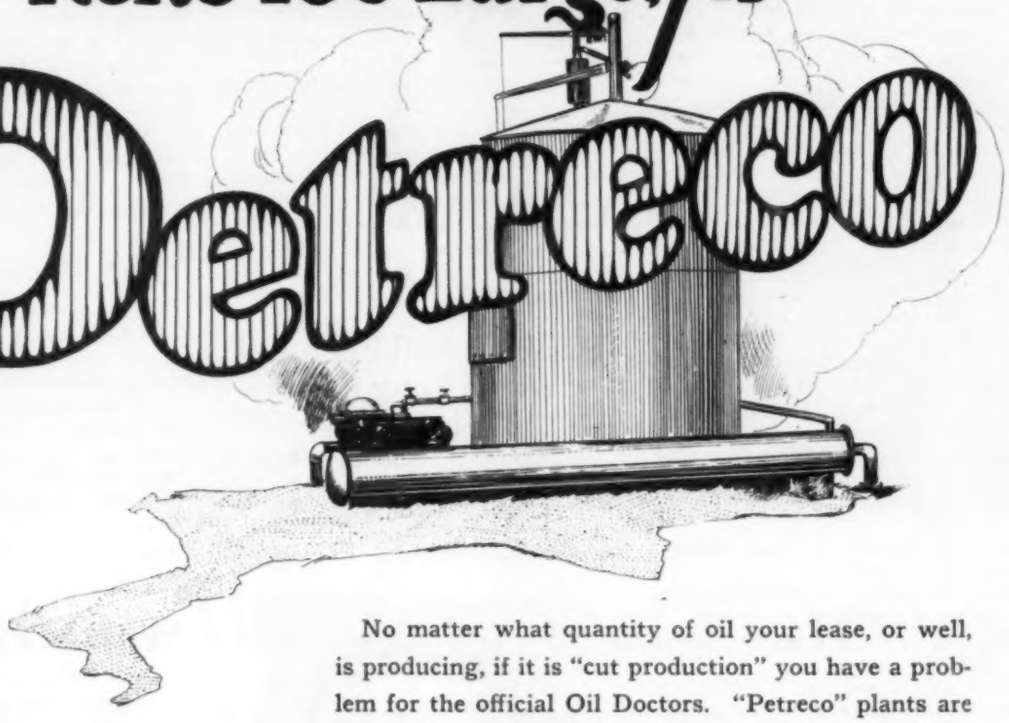
Montana Production

Great Falls, Mont.—A new record was established last week, when Montana oil production reached 27,900 barrels daily. Many wells have been shut in in the Kevin-Sunburst field and it is expected that production will climb even higher because of recent price increases. Many operators are having additional pipe line connections made to connect with the purchasers' main trunk lines.

Drill to Lakota Sand

Billings, Mont.—Ohio Oil Company will go to the Lakota sand on the Roscoe structure if necessary. Its well is now drilling near 3700 feet. The company has practically proven that the well is located on the flank of the structure but are hesitant about giving up the present hole before an exhaustive test has been made. Excellent showings of oil and gas have been encountered at various depths.

No "Cut Oil" Problem Too Small, None Too Large, for Petreco



No matter what quantity of oil your lease, or well, is producing, if it is "cut production" you have a problem for the official Oil Doctors. "Petreco" plants are treating emulsified crude for large and small producers alike, piling up profits formerly passed by.

"Petreco" is the one process of bringing "cut oil" to pipe line requirements, profitably, in any quantity. In all fields, with any grade or character of crude, the results are the same—uniformly successful.

If your production tests higher than pipe line specification in emulsion content, investigate "Petreco."

The complete story of added profits through electrical dehydration is told in our booklet "The Electrical Process for the Dehydration of Crude Oil Emulsions." Your copy will be mailed promptly on request.

Let the Official Oil Doctors Solve
Your Cut Oil Problems for You

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

308 Union Oil Building, Los Angeles, Calif.
336 Humble Building, Houston, Texas

Oklahoma Geological Survey Gives Account Of Work

Norman, Okla.—According to Charles N. Goule, director, the Oklahoma Geological Survey is now distributing bulletins, covering one of the most active periods in the history of the organizations. Field trips have resulted in areas being checked with such accuracy that the work of the department is at its best.

Three more field trips are on schedule for the year. One will be into the Ouachita Mountains, one into the Oklahoma and Texas Panhandle areas and a third into the Ardmore district.

The following publications and accomplishments for the survey have been listed by the director:

In 1925, the survey issued the following publications:

Bulletin 31, Identification of Heavy Minerals, by Edson.

Bulletin 33, Geology of Love County, by Bullard.

Bulletin 34, Geology of Cimarron County, by Rothrock.

Bulletin 35, Index to the Stratigraphy of Oklahoma, by Gould.

During 1926 the following publications have come from the press:

Bulletin 36, Report on the Papoose Oil Field, by Bunn.

Bulletin 37, Geology of Texas County, by Gould and Lonsdale.

Bulletin 38, Geology of Beaver County, by Gould and Lonsdale.

Bulletin 39, Geology of Marshall County, by Bullard.

Bulletin 40, Oil and Gas in Oklahoma. This bulletin is being published as separates, of which the following have been issued:

Bulletin 40-A, Geology of Alfalfa, Woods, Harper, Ellis, Woodward and Major Counties, by Clifton.

Bulletin 40-B, Subsurfce of Northeastern Oklahoma, by White.

Bulletin 40-C, Geology of Creek County, by Merritt and McDonald.

Bulletin 40-D, Subsurface of Northwestern Oklahoma, by Greene.

Bulletins on Press

At this time we have in press Bulletin 40-E, Oil and Gas in Stephens County, by Frank Gouin, and Bulletin 4, Coal in Oklahoma, by C. W. Shannon, et al, revised by C. L. Cooper.

Other chapters of Bulletin 40 have been promised during the next few weeks and they will be printed as the manuscripts are received. Oklahoma geologists who have promised these chapters, and who are now working on them, are: E. G. Woodruff, Ed Bloesch, R. H. Wood, R. J. Bunn, Phillip Boyle, F. C. Greene, C. W. Tomlinson, G. C. Clark, R. W. Clark, L. E. Kennedy, Clyde Becker, R. A. Conkling and Irvin Perrine. We have not yet been able to secure anyone to write Osage, Washington and Lincoln counties.

Maps and Circulars Ready

The following is the status of other publications:

Circular 9, Sycamore limestone, by Cooper, ready for printing.

Circular 13, The Permian of Western Oklahoma and the Panhandle of Texas, by Gould and Lewis, ready for printing.

Circular 14, The Anadarko Basin, by Gould and Clifton, being written.

Bulletin 41, The Upper Paleozoic Rocks of Oklahoma, by Gould and Wilson, ready for printing.

Bulletin 42, Oklahoma's Mineral Resources, by Redfield, being written.

Bulletin 43, Underground Methods and Equipment for Producing Oil in Oklahoma, by H. C. George, being written.

Bulletin 44, Geology of Craig County, by Ohern, being revised.

Bulletin 45, Geology of Nowata County, by Ohern, being revised.

Bulletin 46, Geology of Washington County, by Ohern, being revised.

New Oil and Gas Map of Oklahoma, showing 287 fields, ready for distribution.

Geological Map of Oklahoma, by Miser, final proof corrected. Should be available at the U. S. Geological Survey, Washington, D. C., in sxity days.

Uncover 800-Foot Oil Sand in Long Beach Field

Long Beach, California.—Something in the phase of new development in the older part of Long Beach field proper is promised by revelations this week of the General Petroleum Corporation's K&H No. 7 deep test, located in the heart of the field.

K&H No. 7 has encountered a productive zone which runs from 4300 feet to 5100 feet and which has very little stratum in the 800 foot stretch that is not productive of oil.

Bailing has started on the well and it should be completed soon.

In Los Cerritos, Walter P. Temple's deep test has reported fair showings of oil sand from 5645 feet to 5790 feet. Four-and-three-fourths pipe has been set at the more shallow depth.

Signal Hill, (Long Beach and Los Cerritos), has maintained its production for three weeks. The older area of the district is producing about 86,000 barrels per day regularly and Los Cerritos is hovering around 11,000 barrels, contrary to expectations.

George W. H. Reid has been added to the regular staff of writers for *The Oil Weekly* and other publications of the Gulf Publishing Company, for which he will write exclusively.

During recent years Mr. Reid has become recognized as a writer on technical subjects pertaining to the oil industry through his contributions to publications in this field, and his association with the Gulf Publishing Company is a distinct addition to the technical staff, particularly *The Oil Weekly* and *The Refiner and Natural Gasoline Manufacturer*. He will write some semi-technical articles on refinery products for *The Filling Station and Petroleum Marketer*.

During recent months Mr. Reid has been in California but is originally from Texarkana where he received his high school education, and had special work in the University of Arkansas. He has had practical experience in refinery and production work as petroleum engineer, in Louisiana, Arkansas, Texas and California. During recent months he has been devoting his time to writing, with occasional special advisory work in his profession as engineer.

Articles from Mr. Reid have been appearing from time to time in this publication, and the publishers are gratified to report to the readers that they will appear with regularity in the future.

Win Receivership Suit

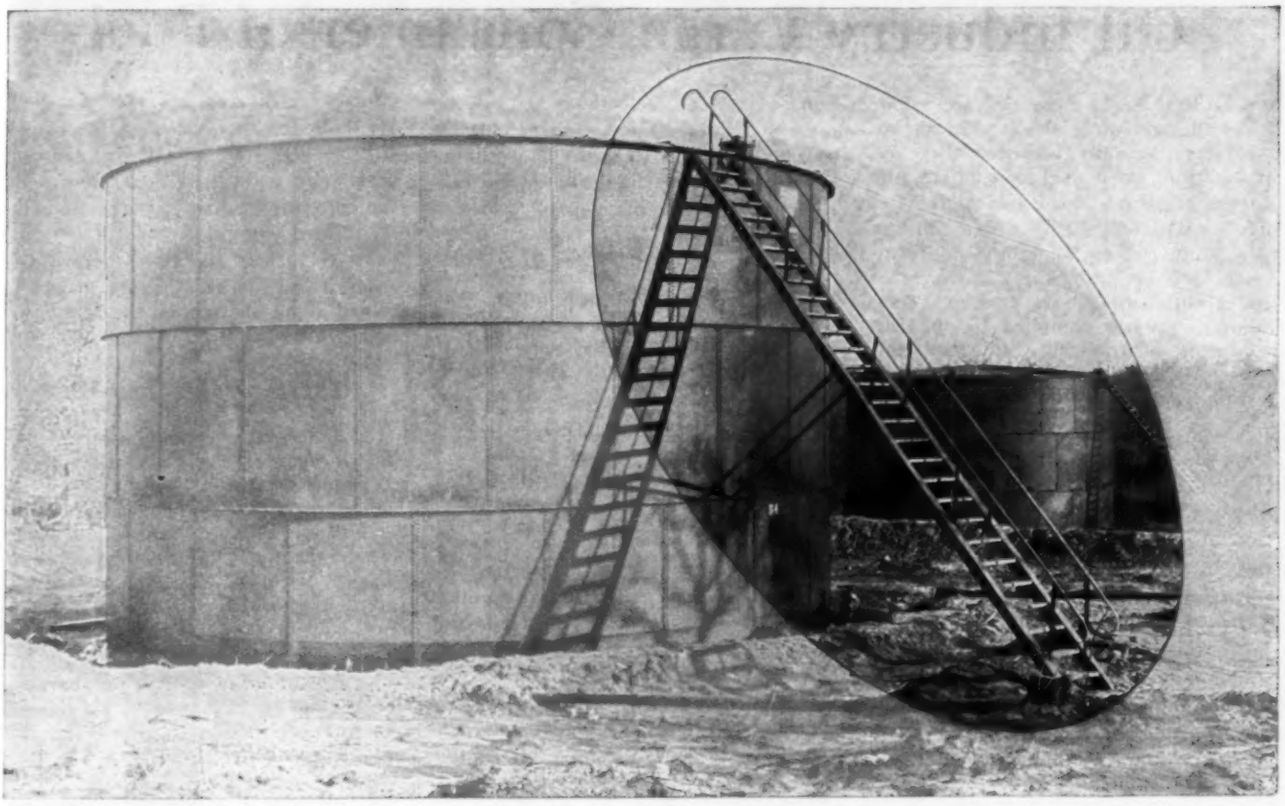
Great Falls, Mont.—The Gordon Campbell-Kevin syndicate recently scored a complete victory in the Toole County district court, when its holdings in the Kevin-Sunburst field were ordered restored by Judge J. J. Green, who found that a receiver should never have been appointed. All profits accrued since the receivership went into effect were also ordered restored. The syndicate financed the drilling of the first well in the field.

Montana Price Up Again

Great Falls, Mont.—Keeping pace with the rapidly improving conditions in the field, the Ohio Oil Company has again raised the price of Kevin-Sunburst crude 10 cents per barrel. The posted field price at the well is now $1.25. As predicted last week, the differential is gradually being wiped out. Mid-Continent prices for the same grade of crude is almost $2 per barrel. In the face of Mid-Continent advances of a year ago, Kevin-Sunburst crude was reduced in price. It is thought that the advent of large outside companies into the field has caused the purchasing companies to realize that a crude shortage is possible in the region.

Lake Basin Gassers

Billings, Mont.—Continuing its success in the Lake Basin region, the Record Petroleum Company has completed two good gas wells. One of these wells is producing 15 million cubic feet of gas daily from one of the upper sands. Both wells will be continued to the lower formations, where oil is practically certain. This company has met with much success in drilling the Lake Basin field, although some of the larger companies abandoned it after a series of failures. Ample gas for drilling purposes was found in the upper sands and this has been used for development purposes. A carbon black plant may be built to utilize the surplus gas.



Columbian Welded Steel Stairways

The introduction by Columbian of 5000 and 10,000-barrel Bolted Steel Tanks accentuated the need in the oil fields for safe, portable and easy-to-mount stairways for tanks. So Columbian pioneered the first and only welded steel stairway. And while about it Columbian engineers designed a stairway adaptable to all sizes of oil tanks as well as farm, pipe line and refinery tanks.

For Any Size Tank

There is the ten-foot length for the one ring tank and the twenty-foot length for the two-ring tank. For the three-ring or higher tank, a ten and a twenty or a twenty and twenty-foot length are bolted together at destination. All stairways over 20 feet in length must be shipped in two sections.

Easy to Erect—Portable

A couple of wrenches are the only erecting tools needed. Bolts are furnished for attaching the hand rail, which has welded-on supports, and for splicing lengths over 20 feet. There are only 24 bolts on a 30-foot stairway. Two men can set up and attach to a tank in an hour. It is just as easily taken down and re-erected.

Safe—Convenient

Each 10 or 20-foot unit of the Columbian Stairway is welded into one integral network of steel. Steps are welded on the inside of the box-channel side members with the weld on the bottom side of the step. Steps have a pressed steel tread, giving maximum foot traction. Steps have a 10½-inch rise. Close enough to let the tired fellow mount the tank like walking and the peppy one will go up three at a time like a sailor or fireman. And the Columbian Stairway will support all the men you can crowd on it.

Sold by Columbian Dealers

In or near every oil field there is a Columbian Bolted Steel Tank Dealer maintaining adequate stocks and trained erecting crews. Let them fit your field tanks, farm tanks, pipe line tanks or refinery tanks with Columbian Welded Steel Stairways.

COLUMBIAN STEEL TANK COMPANY

EST'D 1894

TANKS FOR THE WORLD

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Say you saw it in The OIL WEEKLY

Oil Industry Large Consumer of Fuel

PETROLEUM refineries are usually thought of solely as energy producers; actually, however, they are, in addition, great fuel consumers, the Bureau of Mines of the Commerce Department points out. It takes energy to produce energy, and the refinery industry probably consumes in excess of one-tenth as much fuel as it produces. Figures recently compiled by the Bureau show that during 1925 the refineries of the United States in their own operations consumed over 50 million barrels of fuel oil, over 6 million tons of coal, and more than 120,000,000,000 cubic feet of gas. The refining industry therefore ranks with the railroads and the shipping industry as major consumers of oil for fuel.

Figures compiled by the Bureau of the Census show that the refineries consumed for fuel in 1919, 23,649,000 barrels of fuel oil, 4,725,000 tons of coal, and nearly 27,000,000,000 cubic feet of gas; and, in 1923, 4,902,000 tons of coal, figures for oil and gas used not being available for that year. Since runs to stills in 1919 were a little less than half what they were in 1925, it follows that the consumption of oil for fuel per barrel refined was relatively the same last year as it was six years before. Increased use of the cracking process in recent years has tended toward greater fuel consumption. This has been compensated, however, by the use of a more efficient fuel (gas for coal) and by increased efficiency in operation.

Although the consumption of coal has increased, the proportion to the total amount of fuel used has decreased. The consumption of coke at refineries in 1919 and 1925 was 320,000 and 314,000 tons respectively. This decrease is surprising in view of greatly increased production causing additions to stock.

Increased use of gas for fuel has compensated the deficit due to coal. The consumption of gas per barrel of oil refined has doubled in the last six years. Accessibility rather than price governs the use of natural gas at refineries and, where possible, the refineries have supplied themselves with gas by means of pipe lines to adjacent fields. There has probably been an increase during recent years in the amount of refinery or "incondensable" gas used for fuel. This has been made possible by improvements in refinery practice which now consumes large quantities of gas formerly lost in the air. Such gas saved serves a dual purpose, for it is usually treated in gasoline extraction plants, after which the residue gas is burned as fuel.

Besides the fuel oil which it burns under stills, the petroleum industry uses great quantities of oil, often in the crude state, for field operations, such as drilling and pumping wells, and operating pipe lines. Although the final figures for 1925 have not yet been prepared, it is probable that 6,000,000 barrels of oil were consumed for field purposes during 1925, which amount includes 1,825,000 barrels of crude petroleum consumed in the operation of pipe lines east of California.

Fuel Consumed by Refineries, 1925
(Units of thousands)

	Oil (bbls.)	Coal (tons)	Gas Nat. (M cu. ft.)	Gas Ref. (M cu. ft.)	Coke (tons)	
East Coast	14,164	1,406	....	6,863	104	*
Appalachian	641	1,346	2,364	537	5	**
Ind., Il., etc.	2,997	3,077	....	5,505	33	***
Oklahoma	2,552	1	25,670	3,295	...	...
Kansas	3,021	229	5,955	3,175	6	...
Tex. Inland	2,277	....	4,900	422	8	...
Texas Gulf Coast	13,189	....	12,956	7,354	79	...
Ark.-La. Inland	15	....	6,267	353	...	...
La. G. Coast	4,920	....	....	2,518	59	...
Rocky Mt.	1,761	94	19,007	3,448	20	...
Calif.†	4,918	....	10,723	1,571	...	...
Total U.S.	50,455	6,153	87,842	35,041	314	

*3,269 cords wood. **72,632 kilowatts. ***183-

(Continued on next page.)

Wichita and Archer Counties Have Unusual Completions During Past Week

Wichita Falls, Texas.—The Sunshine Hill field in upper Wichita County and the Turbeville Ranch lands in Archer County contributed unusually large oil producers during the past week.

R. R. Clark and associates' Ward & Todd 8, located in the northeast quarter section 13, G. C. & S. F. survey, and due east of the town of Sunshine Hill, gauged 1250 barrels by natural flow from oil sand at 1846-53 feet, and is the largest producer scored in the county since 1922 when the South Electra field was having its banner period.

The Bridwell-Heydrick Oil Company's Ward & Todd 7, located on a nearby lease, swabbed and flowed 500 barrels initial from pay at 1830-59 feet with shale and lime to 1879 feet. The discovery of this 1800-foot sand was made several months ago, and has resulted in the re-drilling of a number of leases in the Sunshine Hill area lately.

The flush area in the Simms-Turbeville field in central Archer County was pushed eastward early this week when the Petroleum Producers Company et al's Turbeville 1, located in the southwest corner of a 33-acre lease in the northwest corner of section 171, Robert Carson survey, swabbed and flowed at the rate of 50 barrels per hour from regular oil sand pay at 1489-1522 feet. The Texas Company's Turbeville 8-C, located a short distance to the west of the above well, swabbed and flowed 1025 barrels after drilling 28 feet of sand pay to a total depth of 1522 feet, while the same company's 7-C swabbed and flowed 900 barrels during 18-hour gauge last week from the same thickness of sand pay at a total depth of 1526 feet.

The Wanderer Oil Company and Perkins-Cullum's Turbeville 1, pushed the productive limits of the Turbeville pool, located on and around section 150, about three locations to the northwest late last week swabbing 250 barrels from broken sand at 1496-98 feet and 1501-07½ feet.

In western Jack County, the Seaboard Oil & Gas Company's C. K. Cullers 2, located in the Samuel Chairs survey, pumped 110 barrels initial from sand pay at 2084-92 feet, while the Security Drilling Company's First State Bank 1 has been completed as a 40-barrel producer in broken sand pay at 2341-66 feet.

The small wildcat oil producer completed by Lynch, Stahl & Burris, Oklahoma operators, on the J. Dangelmayer land near Muenster, Cooke County, last week with an initial production of 10 barrels of 35 gravity (79° Temperature) from sand at 806 feet, is expected to be the forerunner of a new shallow oil field for the county. These operators encountered broken oil sand at 796-802 feet and oil sand at 802-06 feet while drilling with a nine-inch bit, and it is expected that a larger producer would have been gotten had a smaller bit been used in drilling the pay horizon. This wildcat producer is located in lot 17, George Ivy survey, and about one mile northwest of Muenster.

Wildcatting in Cooke County has been showing more activity each week since the discovery of the Hooser field in the northwest part of the county. The Hoffer Oil Corporation of Fort Worth is starting a 2500-foot test on the A. M. Wilson farm, Lewis Knight survey, and about three miles north of Marysville. The Hooser field has 12 completed pumpers in the 1200-foot sand, with a current production of about 600 barrelss, and all the oil is being run to Humble Pipe Line Company.

On *the deepest wells* all over the world—

BURNS TUBULAR *temper screw*

AT Hartely No. 27 —and on deeper wells all over the world you will find the Burns Tubular Temper Screw, standard equipment.

TEMPER BURNS SCREW

As wells go deeper you will find it being specified everywhere. Supply stores throughout the world carry it in stock—*to meet the insistent demand.*

For your protection insist on genuine Burns Parts, then you will be assured of continuous satisfactory operation.

BURNS *Tool Company*

OKMULGEE - OKLAHOMA

Say you saw it in The OIL WEEKLY

660 kilowatts. †Compiled by J. W. Mashaw, Bureau of Mines, San Francisco.

Crude Petroleum Consumed at Pipe-Line Pumping Stations, 1925 (Thousands of barrels)

Appalachian	6
Indiana, Illinois, etc.	64
Oklahoma and Kansas	622
Texas	761
Louisiana and Arkansas	325
Rocky Mountain	47
Total east of California	1,825

Recent Wells in Tonkawa Extension Area

Tulsa, Oklahoma.—Well No. 1 Leigerot of the Barnsdall Oil Company in the southeast corner of the northwest quarter of section 28-25-1w, in the northwest extension of the Tonkawa pool, is making 1400 barrels of clean oil from the Wilcox sand 4277 to 4281 feet. This is the latest well in this section of the field.

Gypsy's No. 4 Gardner in the southwest of the northeast of the southwest of 28-25-1w has been deepened to 4321 feet where it ran into water. It previously made 1400 barrels, total depth 4300 feet.

Skelly Oil Company's Becker 4 in the northwest of the southeast of the southwest of 28-25-1w made 80 barrels from the Wilcox drilled but a few inches, total depth 4302 feet.

No. 1 Liegerot of the Blackwell Oil & Gas Company in the southeast corner of the northeast of 29-25-1w, the well farthest northwest, is making around 1400 barrels of oil with half that amount of water.

Nigger Creek Production Declines Sharply

Mexia, Texas. — The Nigger Creek field produced 12,835 barrels from 42 wells during the 24-hour gauge ending 7 a. m. September 20, while one week previous the daily gauge showed 17,505 barrels from 39 producers. The sharp break in production is due to the lifting of the "head" off the field, and most of the wells are now going on the pump. The current production gives the operators an average of 305 barrels daily per well. The peak daily yield for the field was reached during the 24-hour period ending September 7 with 33 wells making 22,085 barrels, or 669 barrels daily per well.

The Transcontinental Oil Company reported 21 active tests underway; five rigs and derricks; and one location at the close of last week, while four other operators were drilling on six locations at the close of last week. An effort to extend the southwest end of the field across the Navasota River is being made by the Oxford Oil Company on a small lease obtained from the Grayburg Oil Company.

Wildcat operations along the East Central Texas fault zone are gradually increasing in numbers, and a number of tests are scheduled to make a test of the Edwards lime and Trinity sand. Acreage surrounding the old Kosse short lived gusher is proving to be a favorable area for the deep tests, and Kosse Oil Syndicate to drill about 300 feet to the southwest of the Kosse freak producer on the Jones land. This same concern is standardizing at 2905 feet on its Fenner 1, which is also located near Kosse.

The northeast end of the fault region is being tested out by Hill and Atlantic Oil Producing Company's Haynie 1, located south of Kemp in Kaufman County, and late last week was nearing the chalk horizon at 1820 feet. Fred Haynes and associates are trying to secure enough acreage donations from the large companies holding protection in western Henderson County to make another try for production in the Woodbine, and plan to drill on the Newell survey.

New Arkansas Pipe Line Nearing Completion

El Dorado, Ark.—The Crusader Pipe Line Company has announced that its new pipe line extending from the Arkansas fields to the Mississippi River at Ferriday, Louisiana, a distance of 143 miles, is expected to be completed and in operation on or about October 1. Docks, storage, and loading facilities at the southern terminus of the line have been completed, and barges are now moving up the river to receive the first shipments of oil. There are six pump stations along this ten-inch line which is said to have cost approximately five million dollars, being located at El Dorado, Hillsboro, Farmerville, Monroe, Mangham, Gilbert, Foules and Ferriday.

Test Deeper in Arkansas Well That Blew Out

El Dorado, Ark. — Arkansas operators are awaiting the completion of the test in the Simms-Sun Oil Company's Simmons wildcat, in section 9-18-13 of the Urbana-Lawson community, in Union County. This well, which is about eight miles southeast of the nearest production in the East El Dorado field, has yielded a promising showing in cores pulled from a depth of 2930 feet, and the crew is now reaming hole preparatory to setting casing at about that depth. A gas blow-out occurred in this well when the Blossom horizon was penetrated at around 2635 feet, after which drilling was continued in search of oil production.

The Phillips Petroleum Company, which recently purchased a one-half interest in the Cordell wildcat and surrounding acreage, owned by Walber and others, is swabbing at a depth of 2984 feet. A considerable volume of oil has been swabbed from the hole, accompanied by gas and salt water in small quantities. Although the outcome of this test is still a matter of doubt, some operators express the opinion that this may make a commercial well. Location is in section 6-18-13, near the Simms well.

Magnolia Building Line

Tulsa, Okla. — Magnolia Pipe Line Company is one of the latest purchasers to be attracted by the prospective flush production in the new Seminole City field, and is building about 10 miles of six-inch line from its Maud pump station to the south end of the field. Although Magnolia Petroleum Company does not possess any leases in the field, the company does own considerable royalty interests, and will take same through its own carrier.

Kevin - Sunburst Gasser May Mean Line

Great Falls, Mont.—A 45 million cubic foot gas well has been completed in the southern part of the Kevin-Sunburst field by the Sunburst Oil and Refining Company. The well is without doubt the largest ever completed in the field. Plans have been under way for several years to lay a gas line from the region to Great Falls, but an adequate supply of gas has never been available for such a large undertaking. With the completion of the Sunburst gasser, it is practically assured that the line will be built. The well has more value than a 500-barrel oil well.

Colorado Interest Lags

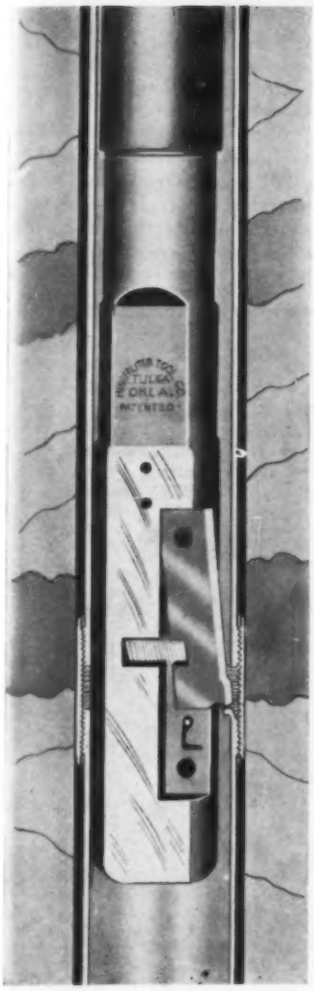
Denver, Colo.—Activity in southeastern Colorado has been a disappointment in view of the promised development during the early summer months. Some of the larger companies were gathering leases but so much publicity was given the fact, these interests released their efforts toward acquiring additional acreage. The leasing was based largely upon the hope that the Texas Panhandle producing areas extended into Colorado.

Decision Affects Indian Land Leases in Utah

Denver, Colo.—An important decision, affecting 75 applicants for oil and gas prospecting permits on Indian lands in southeastern Utah, has been rendered by the Department of the Interior, which has held that the permits issued under the leasing act of 1920 should not have been granted. Secretary A. B. Fall held in 1922 that the Indian lands should come under the leasing act. The decision places some very promising leases in a doubtful state.

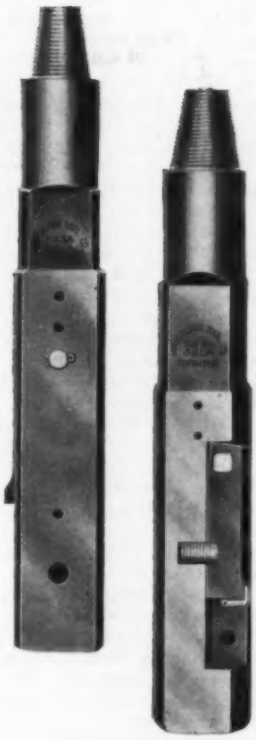
A RIPPING GOOD CASING RIPPER

One Tool Adjustable for Either Jar-Up or Jar-Down Ripping



Ready to rip down, showing knife released and latch in clear.

Small cuts at right show position of knife when held by latch, and position when released for jarring down.



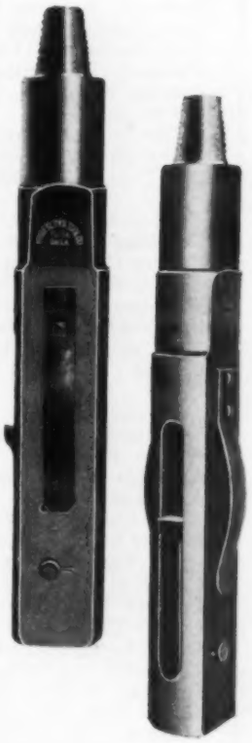
THE HINDERLITER Jar-Up and Jar-Down Casing Ripper is designed for disconnecting a string of casing in the hole ***at any coupling desired,*** by ripping the threaded casing in the casing collar. It answers **every** requirement, being equipped with a knife adjustable for either jar-up or jar-down ripping.

This patented ripper performs functions which cannot be performed by any other on the market. Most important among these is its ability, when set for jarring down, to start at the bottom joint of a frozen string and disconnect each joint in turn, working upward, until it has worked past the frozen joints. By this means ***ALL*** of the free casing can be withdrawn from the well uninjured. When used for this purpose the latch holds knife in sheath while Ripper is run to a position below the lowest collar. Ripper is then slowly raised, and the friction of latch against casing trips the latch releasing knife, which snaps into the first collar. This snag is telegraphed up the casing. After ripping this thread, Ripper is again raised until it snaps into the next collar, and so on.

Ripper is used in the jar-up position, when it is desired to withdraw one or several joints at the top of the string of casing. After the desired collar is located and the casing ripped, the released joints are lifted out on the edge of the knife.

This Ripper does not burst or otherwise damage the collar remaining in the hole, beyond the stage where a steel nipple can be safely used.

Views with knife set for jarring up, showing springs for holding Ripper in position when jars are slacked for up-stroke.



HINDERLITER TOOL COMPANY

"The Biggest Little Tool Company in the Oil Country"

TULSA, OKLAHOMA

Branches in All Principal Oil Fields

HINDERLITER

Say you saw it in The OIL WEEKLY

Electric Power, Automatically Controlled, Economical in Time and Money

(Continued from page 46.)

tion such as boulders is encountered, the drill stem moves upward as the speed of the hoisting motor will then exceed that of the drilling motor. Thus, by adjusting the speeds of the two motors, a limiting pressure on the bit can be set and the bit will automatically retrieve when this pressure is reached. It is noted that by operating both motors in the same direction, then the combined power of both motors can be utilized for hoisting purposes.

Replaces Engines

This unit replaces the usual steam equipment of boilers and engine. It is located in the same position as occupied by a twin engine, in the rear of the draw works. The only difference in the arrangement of the two installations is that the differential drive requires two chains to the line shaft of the draw works. One chain is connected to the drive sprocket of the line shaft exactly the same as in the case of a twin engine. This chain handles the entire load in pulling the drill pipe out of the hole when both motors are used together for hoisting purposes. During drilling it is operated by the differential gear. The second chain engages a quill sprocket which runs loose on the line shaft and located in the same position on the shaft as the sprocket which drives the rotary when a twin engine is used. This chain is driven by the rotary drive motor and upon the hub of the sprocket on the line shaft is the clutch and sprocket that drives the chain connecting with the rotary table. This special quill arrangement can be installed in any standard type of draw works.

The electric motors are controlled by a throttle located in the same position as it is in operating a steam outfit, and this throttle is connected by telegraph cords to the controllers of the motors. The throttle is composed of two wheels compactly arranged on the same axle, which permits the motors to be controlled individaully. Stop push buttons are also installed at the throttle position which permit the motors for both the gear set and the pumps to be shut down, instantly in case of emergency.

"I Kin Remember"

(Continued from page 49.)

arid deserts, right down and into the Pacific, out in the feverish jungles—the derricks will march, regardless and heedless of physical obstacles—just so long as the world needs the precious greasy fluid that hides beneath the surface of the earth.

Panhandle Shows Further Increase

Amarillo, Texas.—Daily average production during the past week in the five counties producing oil in the Texas Panhandle district is listed below by companies, with the total producing wells included:

	Number Wells	Daily Average Prod.
Carson County—		
Amarillo Oil Company	1	....
American Refining Co.	7	600
Gates Oil Company	1	10
Gulf Production Company	13	235
Marland Oil Company	12	2,600
Roxana Petroleum Corp.	1	140
W. W. Silk et al	2	75
Skelly Oil Company	2	95
Sunny Jim Oil Company	2	50
The Texas Company	17	250
Totals	52	4,055
Gray County—		
Empire Gas & Fuel Co.	1	10
Gulf Production Company	1	60
Magnolia Petroleum Co.	1	35
Prairie-Shamrock et al	3	1,150
The Texas Company	1	5
Wilcox Oil & Gas Co.	5	2,950
Totals	12	4,210
Hutchinson County—		
Alaska Petroleum Company	1	....
Amerada Petroleum Corp.	7	730
American Refining Company	2	115
Apex Oil Company	2	270
Badger Oil Company	2	80
R. G. Barnum et al	1	....
Canadian River Oil Co.	4	490
Canyon Oil Company	3	2,750
Center Dome Oil Company	1	....
Cline & Douglas Oil Co.	1	20
Coble-Whittenburg Oil Co.	3	750
Cockrell-McIlroy Oil Co.	2	625
Currie Bros. & J. R. Phillips	2	430
Delmar Oil Company	1	45
Derby Oil Company et al	4	1,050
Devonian Oil Company	3	875
Dixon Creek Oil Company	21	6,805
Double Five Oil Company	1	70
E. J. Dunnigan et al	1	840
J. B. Dunnigan et al	2	325
Echo Oil Company	3	1,125
Empire Gas & Fuel Company	4	580
Fly-Blackburn Oil Company	2	255
Gates Oil Company	4	380
Goldelline Oil Corporation	2	295
Golding-Phillips Oil Co.	1	....
Gulf Production Company	16	4,390
Gulf-Cline-Panhandle Ref. Co.	30	5,615
W. Scott Heywood et al	2	30
W. H. Holmes et al	1	220
Holmes-Currie-McKnight	2	420
J. K. Hughes Development Co.	11	1,850
Japhet Production Co.	1	520
J. H. Lenix et al	1	....
Lucky Ten Oil Company	3	1,000
Marland Oil Company	26	16,150
S. D. & W. W. McIlroy	3	920
McIlroy Oil Company	3	360
McIlroy-Herring Oil Company	4	600
McMan Oil & Gas Company	12	7,080
J. H. Middleton et al	3	90
Mid-West Exploration Co. et al	5	345
Minnehoma Oil Co. & Kistler	1	50
Murchison-Fain Oil Company	1	300
Newby Oil Company	1	35
New Domain Oil & Gas Co.	3	150
Pattison-Lenix Oil Company	1	270
J. R. Phillips et al	1	25
J. R. Phillips-Heywood	2	1,905
Phillips Pet. Co. et al	58	22,430
Prairie-Phillips Pet. Co. et al	18	3,960
Relief Oil Company	2	475
Henry Riley & W. H. Holmes	1	300
Roxana Petroleum Corp.	8	2,015
Ryan Con. Pet. Corp. (Morton)	3	500
Skelly Oil Company	12	7,615
Skiatex Oil Company	4	1,200
J. L. Smith	2	190
Smith-Bynum et al	2	280
Spring Creek Oil Company	3	750
Summit Oil Company	2	350
Sun Burst Oil Company	2	1,600
Sunny Jim Oil Company	5	675
Texhoma Oil & Ref. Co.	1	....
Travelers Oil Company	2	640
Triangle Oil Company	2	2,700
J. D. Ward et al	2	130
Westex Oil Company	7	2,790
White Eagle O. & R. Co. et al	12	2,300
Jim O. Whittington et al	1	....
Totals	355	112,130
Potter County—		
Amarillo Oil Company	1	30
Wheeler County—		
Gibson Oil Corp. et al	2	125
Mid-West Exploration Co.	3	15
Texhoma Oil & Ref. Co.	2	305
Totals	7	445
Grand totals for past week	427	120,870
Grand totals for previous week	408	117,570

AVERAGE DAILY PRODUCTION FOR U.S.

United States Daily Average Production by Weeks

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

Week Ending	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Total
February	450,037	101,937	245,989	91,550	45,090	169,676	99,000	98,412	605,250	1,909,637
March	454,762	103,300	260,262	92,712	48,787	165,312	97,625	102,325	604,500	1,929,562
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600,000	1,947,387
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990
June	**456,450**	**107,637**	**302,187**	89,912	**60,412**	**167,887**	**106,250**	**112,925**	**606,925**	2,013,187
July	456,920	110,320	336,600	114,760	57,460	161,870	104,700	108,520	613,940	2,062,470
August	465,137	111,600	381,550	161,237	56,787	157,375	108,350	110,737	609,725	2,162,662
Sept. 4	467,100	112,950	405,000	177,500	56,800	156,950	109,500	109,500	601,000	2,196,300
Sept. 11	465,300	117,750	404,700	175,550	55,950	154,250	110,000	106,850	598,800	2,184,350
Sept. 18	465,000	112,250	400,000	173,700	56,450	152,450	110,500	105,450	596,600	2,172,400
Increase over past week	.....	.....	.....	.....	500	.....	500	.....	.....	.....
Decrease over past week	300	500	4,700	1,850	.....	1,800	.....	1,400	2,200	11,950

Texas

NORTH TEXAS

	Sept. 18	Sept. 11
Burkburnett	11,100	11,050
Electra	16,300	16,500
Iowa Park and K-M-A	4,400	4,400
Wilbarger	13,650	13,900
Hutchinson County	112,600	110,500
Panhandle Misc.	9,100	8,250
Petrolia	600	600
Archer County	29,650	30,000
Others	4,400	4,650
Totals	201,800	199,850

EAST CENTRAL TEXAS

Mexia	11,350	11,500
Currie	800	800
Richland	1,400	1,500
Corsicana-Powell	25,550	26,250
Wortham	6,600	6,850
Nigger Creek	13,350	18,000
Totals	59,050	64,900

WEST CENTRAL TEXAS

Stephens County	11,050	11,050
Eastland County	5,750	5,600
Desdemona	1,750	1,750
Young County	6,100	6,100
Palo Pinto County	450	450
Calahan County	4,200	4,200
Shackelford County	73,000	73,000
Reagan County	28,750	28,200
Brown County	10,750	12,450
Crane-Upton Counties	9,300	9,250
Others	7,650	6,800
Totals	93,050	93,150

SOUTHWEST TEXAS

Luling	21,400	21,700
Laredo District	18,300	18,500
Somerset	2,000	2,000
Lytton Springs	3,750	3,950
Piedras Pintas	150	150
Others	500	500
Totals	46,100	46,800
Tot'l Tex. outside Gulf Coast	400,000	404,700

GULF COAST

Goose Creek	9,850	9,900
Hull	19,350	17,950
Saratoga	1,300	1,300
Blue Ridge	1,650	1,800
Damon Mound	950	800
Batson	1,300	1,300
West Columbia	8,550	8,750
Humble	3,850	3,900
Pierce Junction	2,150	2,850
Sour Lake	6,300	5,250
Spindletop	87,050	89,250
Orange County	8,150	8,100
Edgerly	1,000	1,000
Evangeline	1,100	1,100
Vinton	6,150	6,350
Lockport	4,250	4,000
South Liberty	4,100	4,500
Big Creek	2,250	2,550
Boling	2,000	2,350
Others	2,400	2,800
Totals	173,700	175,550

Oklahoma

North Braman	9,900	9,950
South Braman	8,100	7,950
Blackwell	4,300	4,200
Hubbard	2,950	2,800
Thomas	2,150	2,350
Tonkawa	39,350	40,650
Garber	29,050	29,450
Burbank	47,850	49,100
Osage (Outside Burbank)	34,050	34,250
Watchorn	3,400	2,650
Cushing	21,500	21,550
Yale Jennings	12,750	12,850
Davenport	6,250	6,350
Bristow-Slick	27,550	27,650
North Okmulgee	17,500	17,450
Lyons-Deaner	3,900	3,900
Stroud	2,100	2,100
Cromwell	15,000	15,650
Papoose	10,250	10,500
Wewoka	30,100	30,450
Duncan District	7,300	7,500
Graham	9,250	9,550
Fox	5,750	5,800
Healdton	14,850	14,850
Hewitt	11,950	11,600
Seminole	20,300	17,400
Others	67,100	66,800
Totals	465,000	465,300

California

Santa Fe Springs	48,000	48,000
Long Beach	94,000	96,500
Hutington Beach	44,500	44,500
Torrance	27,000	27,500
Dominguez	22,000	21,500
Rosecrans	13,000	13,500
Inglewood	42,000	43,000
Midway-Sunset	94,000	94,000
Ventura Avenue	48,600	47,800
Others	163,500	162,500
Totals	596,600	598,800

Kansas

Florence-Covert	2,000	2,000
Peabody-Ebling	4,050	4,100
Eldorado-Towanda	13,800	13,850
Augusta-Fox Bush	4,800	4,800
Rainbow Bend	3,950	4,300
Russell	5,050	5,400
Greenwood County	45,100	44,700
Others	33,500	33,600
Totals	112,250	112,750

Arkansas

	Sept. 18	Sept. 11
El Dorado	6,850	6,850
Smackover Light	14,650	14,750
Smackover Heavy	119,300	120,400
Stephens	1,650	1,750
Nevada	2,000	2,000
Lisbon	8,000	8,500
Totals	152,450	154,250

North Louisiana

Homer	5,600	5,600
Haynesville	9,300	9,300
Caddo Light	10,200	10,450
Caddo Heavy	2,950	2,900
Desoto-Red River	4,200	4,150
Elm Grove	550	550
Bellevue	2,100	2,100
Cotton Valley	7,300	7,350
Urania	14,250	13,550
Totals	56,450	55,950

Mountain States

WYOMING

Salt Creek	46,800	44,200
Grass Creek	3,150	3,150
Elk Basin	850	850
Big Muddy	3,300	3,400
Lost Soldier	5,450	5,400
Rock River	2,000	2,800
Teapot Dome	1,150	900
Others	4,800	5,000
Totals	67,500	65,700

MONTANA

Cat Creek	2,700	2,700
Sunburst	22,000	25,000
Others	200	250
Totals	24,900	27,950

COLORADO

Moffats (Craig)	3,250	3,400
Fort Collins	3,600	3,800
Florence	500	500
Others	950	950
Totals	8,300	8,650

NEW MEXICO

Artesia	3,000	3,000
Hogback	700	700
Rattlesnake	1,050	850
Totals	4,750	4,550
Total Mountain States	105,450	106,850

EASTERN STATES

(Including Ill., Ind., Ohio, Pa., W. Va., Ky., and N. Y.)	110,500	110,000

PRODUCTION SUMMARY

East of Rockies	1,470,350	1,478,700
United States	2,172,400	2,184,350

CRUDE OIL PRICE QUOTATIONS

Crude Price Changes

September 15.—Effective at the opening of the market today, Kay County Gas Company (Marland) posted a 40 cent reduction in prices on all grades of crude in the Crane-Upton County district in West Texas.

September 16.—Effective at the opening of the market today, the Standard Oil Company of Louisiana cut the price of Bellevue crude 10 cents. The cut was met at the same time by the Louisiana Oil & Refining Corporation and the Gulf Refining Company of Louisiana.

Current Postings

EASTERN STATES

	Sept. 22 1926
New York Transit	3.40
Bradford District	3.40
National Transit	3.30
Southwest	3.30
Eureka	3.25
Macksburg	3.05
Gaines	2.85
Somerset medium	2.50
Somerset light	2.65
Cabell	2.40
Ragland	1.25
Corning	2.55
Keister	2.30

CENTRAL STATES

Illinois	2.37
Indiana	2.25
Lima	2.48
Plymouth	1.96
Princeton	2.37
Waterloo	1.35
Wooster	2.55

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05

MID-CONTINENT

	Prairie Sinclair* Texas Gulf	Magnolia
Below 28	...	1.30
28 to 28.9 gravity	1.65	1.65
29 to 29.9 gravity	1.73	1.73
30 to 30.9 gravity	1.81	1.81

	Sept. 22 1926
31 to 31.9 gravity	1.89
32 to 32.9 gravity	1.97
33 to 33.9 gravity	2.05
34 to 34.9 gravity	2.13
35 to 35.9 gravity	2.21
36 to 36.9 gravity	2.29
37 to 37.9 gravity	2.37
38 to 38.9 gravity	2.45
39 to 39.9 gravity	2.53
40 to 40.9 gravity	2.61
41 to 41.9 gravity	2.69
42 to 42.9 gravity	2.77
43 to 43.9 gravity	2.85
44 to 44.9 gravity	2.93
45 to 45.9 gravity	3.01
46 to 46.9 gravity	3.09
47 to 47.9 gravity	3.17
48 to 48.9 gravity	3.25
49 to 49.9 gravity	3.33
50 to 50.9 gravity	3.41
51 to 51.9 gravity	3.49
52 and above	3.57

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran, Somerset, Big Lake and Nocona crude

	Somerset (Grayburg)	Humble O. & R. Co. * Texas Co.
28 to 28.9 gravity	1.15	1.65
29 to 29.9 gravity	1.25	1.73
30 to 30.9 gravity	1.31	1.81
31 to 31.9 gravity	1.39	1.89
32 to 32.9 gravity	1.47	1.97
33 to 33.9 gravity	1.55	2.05
34 to 34.9 gravity	1.63	2.13
35 to 35.9 gravity	1.71	2.21
36 to 36.9 gravity	1.79	2.29
37 to 37.9 gravity	1.87	2.37
38 to 38.9 gravity	1.95	2.45
39 to 39.9 gravity	2.01	2.53
40 to 40.9 gravity	2.07	2.61
41 to 41.9 gravity	2.13	2.69
42 to 42.9 gravity	2.19	2.77
43 to 43.9 gravity	2.25	2.85
44 to 44.9 gravity	2.31	2.93
45 to 45.9 gravity	2.31	3.01
46 to 46.9 gravity	2.31	3.09
47 to 47.9 gravity	2.31	3.17
48 to 48.9 gravity	2.31	3.25
49 to 49.9 gravity	2.31	3.33
50 to 50.9 gravity	2.31	3.41

***Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased by the Humble Oil and Refining Company, of a gravity lower than 28 degrees will be paid for with a corresponding decrease of eight (8) cents per barrel for each lower degree of gravity.**

SOUTH TEXAS

Mirando	1.25

GULF COAST

All fields except Spindletop

	Sept. 22 1926
Grade "A" all companies	1.40
Grade "B"	1.50
Gulf Coast Light Oil, Below 25	1.40
25 to 25.9	1.45
26 to 26.9	1.50
27 to 27.9	1.55
28 to 28.9	1.60
29 to 29.9	1.65
30 to 30.9	1.70
31 to 31.9	1.75
32 to 32.9	1.80
33 to 33.9	1.85
34 to 34.9	1.90
35 to 35.9	1.95
36 to 36.9	2.10
37 to 37.9	2.15
38 to 38.9	2.20
39 to 39.9	2.25
40 and above	2.30

***Humble Oil and Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crude above 35 is $1.95 per barrel.**

SPINDLETOP LIGHT

Posted by Gulf Pipe Line Company, Humble Oil and Refining Company, Magnolia and Texas Company. Other companies buying Spindletop crude on regular Gulf Coast basis as shown above.

Below 25 gravity	*1.25
25 to 25.9	1.30
26 to 26.9	1.35
27 to 27.9	1.40
28 to 28.9	1.45
29 to 29.9	1.50

(Continued on page 78.)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Rosecrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Lost Hills	Coalinga	Kern River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	..
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	..	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	.	..	..	..	..	..	..	..

1916
1926

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ATLANTA DETROIT KANSAS CITY CHICAGO HOUSTON OMAHA

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	Sept. 22 1926
30 to 30.9	1.55
31 to 31.9	1.60

*The Texas Company does not post prices on this grade.

SPINDLETOP HEAVY

The following prices are posted only by the Gulf and Magnolia.

Grade "A"	1.25
Grade "B"	1.15

LULING

Based on Contract	1.30

TEXAS PANHANDLE

Posted by Kay County Gas Company, Gulf and Humble Oil and Refining Company.

	Other Cos.
28 to 28.9 gravity	$1.35
29 to 29.9 gravity	1.40
30 to 30.9 gravity	1.45
31 to 31.9 gravity	1.50
32 to 32.9 gravity	1.55
33 to 33.9 gravity	1.60
34 to 34.9 gravity	1.65
35 to 35.9 gravity	1.70
36 to 36.9 gravity	1.75
37 to 37.9 gravity	1.80
38 to 38.9 gravity	1.85
39 and above	1.90
(Humble Oil and Refining Company Only)	
39 to 39.9 gravity	**1.90**
40 to 40.9 gravity	**1.95**
41 to 41.9 gravity	**2.00**
42 to 42.9 gravity	**2.05**
43 to 43.9 gravity	**2.10**
44 and above	**2.15**
(Magnolia Petroleum Company)	
Below 34 gravity	1.15
34 to 35.9	1.25
36 to 37.9	1.35
38 and above	1.45

CRANE-UPTON COUNTIES

Posted by Kay County Gas Company

Below 26 gravity	$ .80
26 to 26.9 gravity	.85
27 to 27.9 gravity	.90
28 to 28.9 gravity	.95
29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.20
34 to 34.9 gravity	1.25
35 to 35.9 gravity	1.30
36 and above	1.35

WYOMING-MONTANA

Wyoming

Byron	2.25
Ferris	1.53
Elk Basin	2.40
Grass Creek	2.40
Rock Creek	2.40
Lost Soldier	1.10
Lance Creek	2.40
Mule Creek	1.75
Notches	.65
Big Muddy	2.25
Osage	2.15
Hamilton Dome	.73
Pilot Butte	1.75
Torchlight-Greybull	2.15
Lander	1.10
Salt Creek (Midwest Refining Company)	
29 to 29.9 gravity	1.73
30 to 30.9 gravity	1.81
31 to 31.9 gravity	1.89
32 to 32.9 gravity	1.97
33 to 33.9 gravity	2.05
34 to 34.9 gravity	2.13
35 to 35.9 gravity	2.21
36 to 36.9 gravity	2.29
37 to 37.9 gravity	2.37
Montana	
Sunburst	1.15
Cat Creek	2.15

NEW MEXICO

Artesia	1.95
Hogback	1.95

CANADIAN CRUDE

Oil Springs	2.95
Petrolia	2.80

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.

Haynesville Test Shows More Oil at 4548 Feet and Will Be Drilled Still Deeper

Shreveport, La.—Latest reports from Haynesville state that W. R. Ramsey is mudding up to drill deeper in his deep test on the Gilliland Oil Company's Taylor "B" Lease, in which a third test was made recently at a depth of 4548 feet. The latest deepening of this hole yielded a noticeable increase in the volume of oil, as compared with the amount found in the course of the test made a fortnight ago at 4530 feet; but, unfortunately, the percentage of salt water showed a greater increase.

Other important deep tests are scheduled to be made during the current week in Dick Norton's Josey-Massey well, at Cotton Valley, and in two of the Magnolia Petroleum Company's wells in section 24-21-15, of the Pine Isand district, Caddo Parish. Casing has been set in Norton's well at 4246 feet, and in the latter wells at 3578 feet and 3588 feet.

The Ohio Oil Company's mile-deep well on the Cox farm, in section 23-21-10, has been abandoned, with junk in the hole, at a total depth of 5957 feet.

Smitherman & McDonald are drilling at 4730 feet in their Oakley well, in section 29-23-11, near Spring Hill, and the Southern Crude Oil Purchasing Company is sidetracking after having plugged back from 4620 feet to 3320 feet in its Munn-Wadley well, in section 1-22-10, on the Shongaloo structure, in Webster Parish.

The surprise of the week comes from the Urania field, in La Salle Parish, where the Natural Gas & Fuel Corporation brought in a gasser which later turned into a very good oil well in section 20-10-2e of the extreme northeastern part of the field, to which area very little attention has been given since the early stages of development. The well, which is on the property owned by the Urania Lumber Company, came in with an initial production of 10 million cubic feet of dry gas from eight feet of sand at a total depth of 1588 feet. Soon after the well came in, a spray of oil appeared, accompanied by a decline of gas pressure, which continued until the well yielded at the rate of 300 barrels of oil per day, with three million cubic feet of gas.

All the acreage within the immediate vicinity of this surprising well is owned by two companies, the Natural Gas & Fuel Corporation and the Louisiana Oil Refining Corporation, so it is considered unlikely that a drilling boom will develop immediately.

More surprising than the completion of this new well, however, is the revival of two old wells on the Natural Gas & Fuel Corporation's "B" Lease in section 18-10-2e, near the town of Urania, in the northern part of the field. Although both wells are more than four months old, having been comcompleted last May, both are making more than four times as much oil as when first borught in. Urania B-2 is said to be flowing in excess of 4000 barrels of oil per day, containing five per cent water, and Urania B-3 is making around 1500 barrels per day, 30 per cent water and sediment.

LOUISIANA-ARKANSAS

	Sept. 22 1926
Caddo Light	
38 gravity and above	2.45
35 to 37.9 gravity	2.35
32 to 34.9 gravity	2.25
*Below 32 gravity	2.10
Caddo Heavy	
Below 26.0	1.40
26 to 28.9	1.55
29 to 31.9	1.70
Homer	
Below 31 gravity	1.85
35 gravity and above	2.20
33 to 34.9 gravity	2.10
31 to 31.9 gravity	2.00
Cotton Valley	
All Grades	1.20
Haynesville	
33 gravity and above	2.10
Below 33 gravity	2.00
Pine Island (Posted by Magnolia)	
Below 26	1.40
26 to 28.9	1.55
29 to 31	1.70
32 to 34.9	2.25
35 to 37.9	2.35
38 and above	2.45
Bull Bayou	
38 gravity and above	2.25
35 to 37.9 gravity	2.10
32 to 34.9 gravity	1.95
De Soto crude	2.30
Crichton	2.10
Bellevue	1.40
Jennings	1.50
Vinton	1.50
Edgerly crude	1.50
Urania	1.10
Smackover (Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)	
27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.35
Below 24 gravity	1.10
The Texas Company	
27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.30
Below 24 gravity	1.10
El Dorado and Lisbon (Atlantic)	
37 and above at 60 degrees	2.30
35 to 36.9 gravity	2.20
33 to 34.9 gravity	2.10
Below 33 gravity	2.00
East Field (Calion)	.95
Stephens District	
26 gravity and above	1.65
Below 26 gravity	1.45

*The Texas Company's posting on below 32 gravity is $1.85.

Osage Map Displayed

Tulsa, Okla.—To assist the Mid-Continent oil men in checking the leases offered in the Osage oil lease auction sale to be held September 30, Kirk M. Nagle has prepared a map of the Osage oil country. A copy of this map is on display in the lobby of the Exchange National Bank.

SARGENT VALVES—
A type for every purpose

WE MENTION A FEW

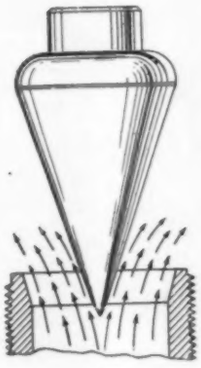
Oversize Top Plunger Valve

Oversize Bottom Plunger Valve

Oversize Four-Cup Plunger Valve

Oversize Two-Cup Plunger Valve

Nevill Four-Cup Sand Valve



EACH ONE A WINNER

Oversize Leather Packed Standing Valve

Oversize Texas Type Standing Valve

Oversize Babbitt Packed Standing Valve

All Steel Oversize Standing Valve

Plumb Bob and Ball Valve

There's a Real Reason for every Sargent Valve. Production executives and mechanics know the sterling quality behind them, know well the many distinct and vital improvements, the trouble and expense they eliminate, and the efficient service they continuously render.

Choose any of the valves enumerated above and you'll get the most value for your money. Scientifically, but simply constructed of the best possible materials, chemically inspected for their purpose. Sargent valves are making good and you'll find them in use wherever oil wells are found.

If there's oil in the well, Sargent Valves will do their part to help make your operations more efficient, less expensive, more productive, and less troublesome.

THERE'S A REAL REASON FOR EVERY SARGENT PRODUCT.

DESCRIPTIVE CATALOGUE SENT ON REQUEST

The Sargent Engineering Corp.

Huntington Park, P. O. Box 95, California

Plant: 2533 E. 56th St., Los Angeles, Calif.

Branch: 214 W. First St., Tulsa, Oklahoma

Petroleum Specialties Co., Casper, Wyoming

Sargent Engineering Corp., El Dorado, Arkansas

R. J. Miller Co., Houston, Texas

660 kilowatts. †Compiled by J. W. Mashaw, Bureau of Mines, San Francisco.

Crude Petroleum Consumed at Pipe-Line Pumping Stations, 1925
(Thousands of barrels)

Appalachian	6
Indiana, Illinois, etc.	64
Oklahoma and Kansas	622
Texas	761
Louisiana and Arkansas	325
Rocky Mountain	47
Total east of California	1,825

Recent Wells in Tonkawa Extension Area

Tulsa, Oklahoma.—Well No. 1 Leigerot of the Barnsdall Oil Company in the southeast corner of the northwest quarter of section 28-25-1w, in the northwest extension of the Tonkawa pool, is making 1400 barrels of clean oil from the Wilcox sand 4277 to 4281 feet. This is the latest well in this section of the field.

Gypsy's No. 4 Gardner in the southwest of the northeast of the southwest of 28-25-1w has been deepened to 4321 feet where it ran into water. It previously made 1400 barrels, total depth 4300 feet.

Skelly Oil Company's Becker 4 in the northwest of the southeast of the southwest of 28-25-1w made 80 barrels from the Wilcox drilled but a few inches, total depth 4302 feet.

No. 1 Liegerot of the Blackwell Oil & Gas Company in the southeast corner of the northeast of 29-25-1w, the well farthest northwest, is making around 1400 barrels of oil with half that amount of water.

Nigger Creek Production Declines Sharply

Mexia, Texas. — The Nigger Creek field produced 12,835 barrels from 42 wells during the 24-hour gauge ending 7 a. m. September 20, while one week previous the daily gauge showed 17,505 barrels from 39 producers. The sharp break in production is due to the lifting of the "head" off the field, and most of the wells are now going on the pump. The current production gives the operators an average of 305 barrels daily per well. The peak daily yield for the field was reached during the 24-hour period ending September 7 with 33 wells making 22,085 barrels, or 669 barrels daily per well.

The Transcontinental Oil Company reported 21 active tests underway; five rigs and derricks; and one location at the close of last week, while four other operators were drilling on six locations at the close of last week. An effort to extend the southwest end of the field across the Navasota River is being made by the Oxford Oil Company on a small lease obtained from the Grayburg Oil Company.

Wildcat operations along the East Central Texas fault zone are gradually increasing in numbers, and a number of tests are scheduled to make a test of the Edwards lime and Trinity sand. Acreage surrounding the old Kosse short lived gusher is proving to be a favorable area for the deep tests, and Kosse Oil Syndicate to drill about 300 feet to the southwest of the Kosse freak producer on the Jones land. This same concern is standardizing at 2905 feet on its Fenner 1, which is also located near Kosse.

The northeast end of the fault region is being tested out by Hill and Atlantic Oil Producing Company's Haynie 1, located south of Kemp in Kaufman County, and late last week was nearing the chalk horizon at 1820 feet. Fred Haynes and associates are trying to secure enough acreage donations from the large companies holding protection in western Henderson County to make another try for production in the Woodbine, and plan to drill on the Newell survey.

New Arkansas Pipe Line Nearing Completion

El Dorado, Ark.—The Crusader Pipe Line Company has announced that its new pipe line extending from the Arkansas fields to the Mississippi River at Ferriday, Louisiana, a distance of 143 miles, is expected to be completed and in operation on or about October 1. Docks, storage, and loading facilities at the southern terminus of the line have been completed, and barges are now moving up the river to receive the first shipments of oil. There are six pump stations along this ten-inch line which is said to have cost approximately five million dollars, being located at El Dorado, Hillsboro, Farmerville, Monroe, Mangham, Gilbert, Foules and Ferriday.

Test Deeper in Arkansas Well That Blew Out

El Dorado, Ark. — Arkansas operators are awaiting the completion of the test in the Simms-Sun Oil Company's Simmons wildcat, in section 9-18-13 of the Urbana-Lawson community, in Union County. This well, which is about eight miles southeast of the nearest production in the East El Dorado field, has yielded a promising showing in cores pulled from a depth of 2930 feet, and the crew is now reaming hole preparatory to setting casing at about that depth. A gas blow-out occurred in this well when the Blossom horizon was penetrated at around 2635 feet, after which drilling was continued in search of oil production.

The Phillips Petroleum Company, which recently purchased a one-half interest in the Cordell wildcat and surrounding acreage, owned by Walber and others, is swabbing at a depth of 2984 feet. A considerable volume of oil has been swabbed from the hole, accompanied by gas and salt water in small quantities. Although the outcome of this test is still a matter of doubt, some operators express the opinion that this may make a commercial well. Location is in section 6-18-13, near the Simms well.

Magnolia Building Line

Tulsa, Okla. — Magnolia Pipe Line Company is one of the latest purchasers to be attracted by the prospective flush production in the new Seminole City field, and is building about 10 miles of six-inch line from its Maud pump station to the south end of the field. Although Magnolia Petroleum Company does not possess any leases in the field, the company does own considerable royalty interests, and will take same through its own carrier.

Kevin - Sunburst Gasser May Mean Line

Great Falls, Mont.—A 45 million cubic foot gas well has been completed in the southern part of the Kevin-Sunburst field by the Sunburst Oil and Refining Company. The well is without doubt the largest ever completed in the field. Plans have been under way for several years to lay a gas line from the region to Great Falls, but an adequate supply of gas has never been available for such a large undertaking With the completion of the Sunburst gasser, it is practically assured that the line will be built. The well has more value than a 500-barrel oil well.

Colorado Interest Lags

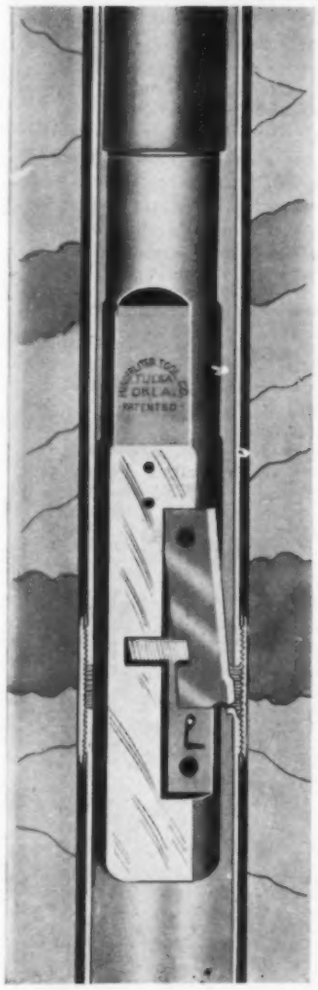
Denver, Colo.—Activity in southeastern Colorado has been a disappointment in view of the promised development during the early summer months. Some of the larger companies were gathering leases but so much publicity was given the fact, these interests released their efforts toward acquiring additional acreage. The leasing was based largely upon the hope that the Texas Panhandle producing areas extended into Colorado.

Decision Affects Indian Land Leases in Utah

Denver, Colo.—An important decision, affecting 75 applicants for oil and gas prospecting permits on Indian lands in southeastern Utah, has been rendered by the Department of the Interior, which has held that the permits issued under the leasing act of 1920 should not have been granted. Secretary A. B. Fall held in 1922 that the Indian lands should come under the leasing act. The decision places some very promising leases in a doubtful state.

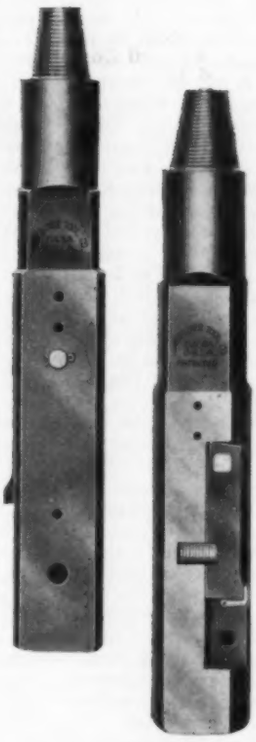
A RIPPING GOOD CASING RIPPER

One Tool Adjustable for Either Jar-Up or Jar-Down Ripping



Ready to rip down, showing knife released and latch in clear.

Small cuts at right show position of knife when held by latch, and position when released for jarring down.



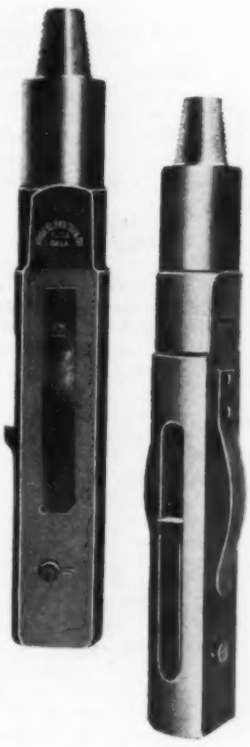
THE HINDERLITER Jar-Up and Jar-Down Casing Ripper is designed for disconnecting a string of casing in the hole ***at any coupling desired,*** by ripping the threaded casing in the casing collar. It answers every requirement, being equipped with a knife adjustable for either jar-up or jar-down ripping.

This patented ripper performs functions which cannot be performed by any other on the market. Most important among these is its ability, when set for jarring down, to start at the bottom joint of a frozen string and disconnect each joint in turn, working upward, until it has worked past the frozen joints. By this means ***ALL*** of the free casing can be withdrawn from the well uninjured. When used for this purpose the latch holds knife in sheath while Ripper is run to a position below the lowest collar. Ripper is then slowly raised, and the friction of latch against casing trips the latch releasing knife, which snaps into the first collar. This snag is telegraphed up the casing. After ripping this thread, Ripper is again raised until it snaps into the next collar, and so on.

Ripper is used in the jar-up position, when it is desired to withdraw one or several joints at the top of the string of casing. After the desired collar is located and the casing ripped, the released joints are lifted out on the edge of the knife.

This Ripper does not burst or otherwise damage the collar remaining in the hole, beyond the stage where a steel nipple can be safely used.

Views with knife set for jarring up, showing springs for holding Ripper in position when jars are slacked for up-stroke.



HINDERLITER TOOL COMPANY

"The Biggest Little Tool Company in the Oil Country"

TULSA, OKLAHOMA

Branches in All Principal Oil Fields

HINDERLITER

Say you saw it in The OIL WEEKLY

Electric Power, Automatically Controlled, Economical in Time and Money

(Continued from page 46.)

tion such as boulders is encountered, the drill stem moves upward as the speed of the hoisting motor will then exceed that of the drilling motor. Thus, by adjusting the speeds of the two motors, a limiting pressure on the bit can be set and the bit will automatically retrieve when this pressure is reached. It is noted that by operating both motors in the same direction, then the combined power of both motors can be utilized for hoisting purposes.

Replaces Engines

This unit replaces the usual steam equipment of boilers and engine. It is located in the same position as occupied by a twin engine, in the rear of the draw works. The only difference in the arrangement of the two installations is that the differential drive requires two chains to the line shaft of the draw works. One chain is connected to the drive sprocket of the line shaft exactly the same as in the case of a twin engine. This chain handles the entire load in pulling the drill pipe out of the hole when both motors are used together for hoisting purposes. During drilling it is operated by the differential gear. The second chain engages a quill sprocket which runs loose on the line shaft and located in the same position on the shaft as the sprocket which drives the rotary when a twin engine is used. This chain is driven by the rotary drive motor and upon the hub of the sprocket on the line shaft is the clutch and sprocket that drives the chain connecting with the rotary table. This special quill arrangement can be installed in any standard type of draw works.

The electric motors are controlled by a throttle located in the same position as it is in operating a steam outfit, and this throttle is connected by telegraph cords to the controllers of the motors. The throttle is composed of two wheels compactly arranged on the same axle, which permits the motors to be controlled individaully. Stop push buttons are also installed at the throttle position which permit the motors for both the gear set and the pumps to be shut down, instantly in case of emergency.

"I Kin Remember"

(Continued from page 49.)

arid deserts, right down and into the Pacific, out in the feverish jungles—the derricks will march, regardless and heedless of physical obstacles—just so long as the world needs the precious greasy fluid that hides beneath the surface of the earth.

Panhandle Shows Further Increase

Amarillo, Texas.—Daily average production during the past week in the five counties producing oil in the Texas Panhandle district is listed below by companies, with the total producing wells included:

	Number Wells	Daily Average Prod.
Carson County—		
Amarillo Oil Company	1	....
American Refining Co.	7	600
Gates Oil Company	1	10
Gulf Production Company	13	235
Marland Oil Company	12	2,600
Roxana Petroleum Corp.	1	140
W. W. Silk et al	2	75
Skelly Oil Company	2	95
Sunny Jim Oil Company	2	50
The Texas Company	17	250
Totals	52	4,055
Gray County—		
Empire Gas & Fuel Co.	1	10
Gulf Production Company	1	60
Magnolia Petroleum Co.	1	35
Prairie-Shamrock et al	3	1,150
The Texas Company	1	5
Wilcox Oil & Gas Co.	5	2,950
Totals	12	4,210
Hutchinson County—		
Alaska Petroleum Company	1	....
Amerada Petroleum Corp.	7	730
American Refining Company	2	115
Apex Oil Company	2	270
Badger Oil Company	2	80
R. G. Barnum et al	1	....
Canadian River Oil Co.	4	490
Canyon Oil Company	3	2,750
Center Dome Oil Company	1	....
Cline & Douglas Oil Co.	1	20
Coble-Whittenburg Oil Co.	3	750
Cockrell-McIlroy Oil Co.	2	625
Currie Bros. & J. R. Phillips	2	430
Delmar Oil Company	1	45
Derby Oil Company et al	4	1,050
Devonian Oil Company	3	875
Dixon Creek Oil Company	21	6,805
Double Five Oil Company	1	70
E. J. Dunnigan et al	1	840
J. B. Dunnigan et al	2	325
Echo Oil Company	3	1,125
Empire Gas & Fuel Company	4	580
Fly-Blackburn Oil Company	2	255
Gates Oil Company	4	380
Goldelline Oil Corporation	2	295
Golding-Phillips Oil Co.	1	....
Gulf Production Company	16	4,390
Gulf-Cline-Panhandle Ref. Co.	30	5,615
W. Scott Heywood et al	2	30
W. H. Holmes et al	1	220
Holmes-Currie-McKnight	2	420
J. K. Hughes Development Co.	11	1,850
Japhet Production Co.	1	520
J. H. Lenix et al	1	....
Lucky Ten Oil Company	3	1,000
Marland Oil Company	26	16,150
S. D. & W. W. McIlroy	3	920
McIlroy Oil Company	3	360
McIlroy-Herring Oil Company	4	600
McMan Oil & Gas Company	12	7,080
J. H. Middleton et al	3	90
Mid-West Exploration Co. et al	5	345
Minnehoma Oil Co. & Kistler	1	50
Murchison-Fain Oil Company	1	300
Newby Oil Company	1	35
New Domain Oil & Gas Co.	3	150
Pattison-Lenix Oil Company	1	270
J. R. Phillips et al	1	25
J. R. Phillips-Heywood	2	1,905
Phillips Pet. Co. et al	58	22,430
Prairie-Phillips Pet. Co. et al	18	3,960
Relief Oil Company	2	475
Henry Riley & W. H. Holmes	1	300
Roxana Petroleum Corp.	8	2,015
Ryan Con. Pet. Corp. (Morton)	3	500
Skelly Oil Company	12	7,615
Skiatex Oil Company	4	1,200
J. L. Smith	2	190
Smith-Bynum et al	2	280
Spring Creek Oil Company	3	750
Summit Oil Company	2	350
Sun Burst Oil Company	2	1,600
Sunny Jim Oil Company	5	675
Texhoma Oil & Ref. Co.	1	....
Travelers Oil Company	2	640
Triangle Oil Company	2	2,700
J. D. Ward et al	2	130
Westex Oil Company	7	2,790
White Eagle O. & R. Co. et al	12	2,300
Jim O. Whittington et al	1	....
Totals	355	112,130
Potter County—		
Amarillo Oil Company	1	30
Wheeler County—		
Gibson Oil Corp. et al	2	125
Mid-West Exploration Co.	3	15
Texhoma Oil & Ref. Co.	2	305
Totals	7	445
Grand totals for past week	427	120,870
Grand totals for previous week	408	117,570

AVERAGE DAILY PRODUCTION FOR U.S.

United States Daily Average Production by Weeks

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

Week Ending	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Total
February	450,037	101,937	245,989	91,550	45,090	169,676	99,000	98,412	605,250	1,909,637
March	454,762	103,300	260,262	92,712	48,787	165,312	97,625	102,325	604,500	1,929,562
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600,000	1,947,387
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990
June	**456,450**	**107,637**	**302,187**	**89,912**	**60,412**	**167,887**	**106,250**	**112,925**	**606,925**	**2,013,187**
July	456,920	110,320	336,600	114,760	57,460	161,870	104,700	108,520	613,940	2,062,470
August	465,137	111,600	381,550	161,237	56,787	157,375	108,350	110,737	609,725	2,162,662
Sept. 4	467,100	112,950	405,000	177,500	56,800	156,950	109,500	109,500	601,000	2,196,300
Sept. 11	465,300	112,750	404,700	175,550	55,950	154,250	110,000	106,850	598,800	2,184,350
Sept. 18	465,000	112,250	400,000	173,700	56,450	152,450	110,500	105,450	596,600	2,172,400
Increase over past week	.....	.....	.....	.....	500	.....	500	.....	.....	.....
Decrease over past week	300	500	4,700	1,850	.....	1,800	.....	1,400	2,200	11,950

Texas

NORTH TEXAS

	Sept. 18	Sept. 11
Burkburnett	11,100	11,050
Electra	16,300	16,500
Iowa Park and K-M-A	4,400	4,400
Wilbarger	13,650	13,900
Hutchinson County	112,600	110,500
Panhandle Misc.	9,100	8,250
Petrolia	600	600
Archer County	29,650	30,000
Others	4,400	4,650
Totals	201,800	199,850

EAST CENTRAL TEXAS

Mexia	11,350	11,500
Currie	800	800
Richland	1,400	1,500
Corsicana-Powell	25,550	26,250
Wortham	6,600	6,850
Nigger Creek	13,350	18,000
Totals	59,050	64,900

WEST CENTRAL TEXAS

Stephens County	11,050	11,050
Eastland County	5,750	5,600
Desdemona	1,750	1,750
Young County	6,100	6,100
Palo Pinto County	450	450
Calahan County	4,200	4,200
Shackelford County	73,000	73,000
Reagan County	28,750	28,200
Brown County	10,750	12,450
Crane-Upton Counties	9,300	9,250
Others	7,650	6,800
Totals	93,050	93,150

SOUTHWEST TEXAS

Luling	21,400	21,700
Laredo District	18,300	18,500
Somerset	2,000	2,000
Lytton Springs	3,750	3,950
Piedras Pintas	150	150
Others	500	500
Totals	46,100	46,800
Tot'l Tex. outside Gulf Coast	400,000	404,700

GULF COAST

Goose Creek	9,850	9,900
Hull	19,350	17,950
Saratoga	1,300	1,300
Blue Ridge	1,650	1,800
Damon Mound	950	800
Batson	1,300	1,300
West Columbia	8,550	8,750
Humble	3,850	3,900
Pierce Junction	2,150	2,850
Sour Lake	6,300	5,250
Spindletop	87,050	89,250
Orange County	8,150	8,100
Edgerly	1,000	1,000
Evangeline	1,100	1,100
Vinton	6,150	6,350
Lockport	4,250	4,000
South Liberty	4,100	4,500
Big Creek	2,250	2,550
Boling	2,000	2,350
Others	2,400	2,800
Totals	173,700	175,550

Oklahoma

North Braman	9,900	9,950
South Braman	8,100	7,950
Blackwell	4,300	4,200
Hubbard	2,950	2,800
Thomas	2,150	2,350
Tonkawa	39,350	40,650
Garber	29,050	29,450
Burbank	47,850	49,100
Osage (Outside Burbank)	34,050	34,250
Watchorn	3,400	2,650
Cushing	21,500	21,550
Yale Jennings	12,750	12,850
Davenport	6,250	6,350
Bristow-Slick	27,550	27,650
North Okmulgee	17,500	17,450
Lyons-Deaner	3,900	3,900
Stroud	2,100	2,100
Cromwell	15,000	15,650
Papoose	10,250	10,500
Wewoka	30,100	30,450
Duncan District	7,300	7,500
Graham	9,250	9,550
Fox	5,750	5,800
Healdton	14,850	14,850
Hewitt	11,950	11,600
Seminole	20,300	17,400
Others	67,100	66,800
Totals	465,000	465,300

California

Santa Fe Springs	48,000	48,000
Long Beach	94,000	96,500
Hutington Beach	44,500	44,500
Torrance	27,000	27,500
Dominguez	22,000	21,500
Rosecrans	13,000	13,500
Inglewood	42,000	43,000
Midway-Sunset	94,000	94,000
Ventura Avenue	48,600	47,800
Others	163,500	162,500
Totals	596,600	598,800

Kansas

Florence-Covert	2,000	2,000
Peabody-Ebling	4,050	4,100
Eldorado-Towanda	13,800	13,850
Augusta-Fox Bush	4,800	4,800
Rainbow Bend	3,950	4,300
Russell	5,050	5,400
Greenwood County	45,100	44,700
Others	33,500	33,600
Totals	112,250	112,750

Arkansas

	Sept. 18	Sept. 11
El Dorado	6,850	6,850
Smackover Light	14,650	14,750
Smackover Heavy	119,300	120,400
Stephens	1,650	1,750
Nevada	2,000	2,000
Lisbon	8,000	8,500
Totals	152,450	154,250

North Louisiana

Homer	5,600	5,600
Haynesville	9,300	9,300
Caddo Light	10,200	10,450
Caddo Heavy	2,950	2,900
Desoto-Red River	4,200	4,150
Elm Grove	550	550
Bellevue	2,100	2,100
Cotton Valley	7,300	7,350
Urania	14,250	13,550
Totals	56,450	55,950

Mountain States

WYOMING

Salt Creek	46,800	44,200
Grass Creek	3,150	3,150
Elk Basin	850	850
Big Muddy	3,300	3,400
Lost Soldier	5,450	5,400
Rock River	2,000	2,800
Teapot Dome	1,150	900
Others	4,800	5,000
Totals	67,500	65,700

MONTANA

Cat Creek	2,700	2,700
Sunburst	22,000	25,000
Others	200	250
Totals	24,900	27,950

COLORADO

Moffats (Craig)	3,250	3,400
Fort Collins	3,600	3,800
Florence	500	500
Others	950	950
Totals	8,300	8,650

NEW MEXICO

Artesia	3,000	3,000
Hogback	700	700
Rattlesnake	1,050	850
Totals	4,750	4,550
Total Mountain States	105,450	106,850

EASTERN STATES

(Including Ill., Ind., Ohio, Pa., W. Va., Ky., and N. Y.)	110,500	110,000

PRODUCTION SUMMARY

East of Rockies	1,470,350	1,478,700
United States	2,172,400	2,184,350

CRUDE OIL PRICE QUOTATIONS

Crude Price Changes

September 15.—Effective at the opening of the market today, Kay County Gas Company (Marland) posted a 40 cent reduction in prices on all grades of crude in the Crane-Upton County district in West Texas.

September 16.—Effective at the opening of the market today, the Standard Oil Company of Louisiana cut the price of Bellevue crude 10 cents. The cut was met at the same time by the Louisiana Oil & Refining Corporation and the Gulf Refining Company of Louisiana.

Current Postings

EASTERN STATES

	Sept. 22 1926
New York Transit	3.40
Bradford District	3.40
National Transit	3.30
Southwest	3.30
Eureka	3.25
Macksburg	3.05
Gaines	2.85
Somerset medium	2.50
Somerset light	2.65
Cabell	2.40
Ragland	1.25
Corning	2.55
Keister	2.30

CENTRAL STATES

Illinois	2.37
Indiana	2.25
Lima	2.48
Plymouth	1.96
Princeton	2.37
Waterloo	1.35
Wooster	2.55

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05

MID-CONTINENT

	Prairie Sinclair* Texas Gulf	Magnolia
Below 28	...	1.30
28 to 28.9 gravity	1.65	1.65
29 to 29.9 gravity	1.73	1.73
30 to 30.9 gravity	1.81	1.81
31 to 31.9 gravity	1.89	1.89
32 to 32.9 gravity	1.97	1.97
33 to 33.9 gravity	2.05	2.05
34 to 34.9 gravity	2.13	2.13
35 to 35.9 gravity	2.21	2.21
36 to 36.9 gravity	2.29	2.29
37 to 37.9 gravity	2.37	2.37
38 to 38.9 gravity	2.45	2.45
39 to 39.9 gravity	2.53	2.53
40 to 40.9 gravity	2.61	2.61
41 to 41.9 gravity	2.69	2.69
42 to 42.9 gravity	2.77	2.77
43 to 43.9 gravity	2.85	2.85
44 to 44.9 gravity	2.93	2.93
45 to 45.9 gravity	3.01	3.01
46 to 46.9 gravity	3.09	3.09
47 to 47.9 gravity	3.17	3.17
48 to 48.9 gravity	3.25	3.25
49 to 49.9 gravity	3.33	3.33
50 to 50.9 gravity	3.41	3.41
51 to 51.9 gravity	3.49	3.49
52 and above	3.57	3.57

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran, Somerset, Big Lake and Nocona crude

	Somerset (Grayburg)	Humble O. & R. Co. * Texas Co.
28 to 28.9 gravity	1.15	1.65
29 to 29.9 gravity	1.25	1.73
30 to 30.9 gravity	1.31	1.81
31 to 31.9 gravity	1.39	1.89
32 to 32.9 gravity	1.47	1.97
33 to 33.9 gravity	1.55	2.05
34 to 34.9 gravity	1.63	2.13
35 to 35.9 gravity	1.71	2.21
36 to 36.9 gravity	1.79	2.29
37 to 37.9 gravity	1.87	2.37
38 to 38.9 gravity	1.95	2.45
39 to 39.9 gravity	2.01	2.53
40 to 40.9 gravity	2.07	2.61
41 to 41.9 gravity	2.13	2.69
42 to 42.9 gravity	2.19	2.77
43 to 43.9 gravity	2.25	2.85
44 to 44.9 gravity	2.31	2.93
45 to 45.9 gravity	2.31	3.01
46 to 46.9 gravity	2.31	3.09
47 to 47.9 gravity	2.31	3.17
48 to 48.9 gravity	2.31	3.25
49 to 49.9 gravity	2.31	3.33
50 to 50.9 gravity	2.31	3.41
51 to 51.9 gravity	2.31	3.49
52 and above	2.31	3.57

Corsicana Heavy $1.25 per barrel, posted by Magnolia.

***Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased by the Humble Oil and Refining Company, of a gravity lower than 28 degrees will be paid for with a corresponding decrease of eight (8) cents per barrel for each lower degree of gravity.**

SOUTH TEXAS

Mirando	1.25

GULF COAST

All fields except Spindletop

Grade "A" all companies	1.40
Grade "B"	**1.50**
Gulf Coast Light Oil, Below 25	1.40
25 to 25.9	1.45
26 to 26.9	1.50
27 to 27.9	1.55
28 to 28.9	1.60
29 to 29.9	1.65
30 to 30.9	1.70
31 to 31.9	1.75
32 to 32.9	1.80
33 to 33.9	1.85
34 to 34.9	1.90
35 to 35.9	1.95
36 to 36.9	**2.10**
37 to 37.9	**2.15**
38 to 38.9	**2.20**
39 to 39.9	**2.25**
40 and above	**2.30**

***Humble Oil and Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crude above 35 is $1.95 per barrel.**

SPINDLETOP LIGHT

Posted by Gulf Pipe Line Company, Humble Oil and Refining Company, Magnolia and Texas Company. Other companies buying Spindletop crude on regular Gulf Coast basis as shown above.

Below 25 gravity	*1.25
25 to 25.9	1.30
26 to 26.9	1.35
27 to 27.9	1.40
28 to 28.9	1.45
29 to 29.9	1.50

(Continued on page 78.)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Rosecrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Lost Hills	Coalinga	Kern River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	..
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	..	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	.	..	..	..	..	..	..	..

1916
1926

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	Sept. 22 1926
30 to 30.9	1.55
31 to 31.9	1.60

*The Texas Company does not post prices on this grade.

SPINDLETOP HEAVY

The following prices are posted only by the Gulf and Magnolia.

Grade "A"	1.25
Grade "B"	1.15

LULING

Based on Contract	1.30

TEXAS PANHANDLE

Posted by Kay County Gas Company, Gulf and Humble Oil and Refining Company.

	Other Cos.
28 to 28.9 gravity	$1.35
29 to 29.9 gravity	1.40
30 to 30.9 gravity	1.45
31 to 31.9 gravity	1.50
32 to 32.9 gravity	1.55
33 to 33.9 gravity	1.60
34 to 34.9 gravity	1.65
35 to 35.9 gravity	1.70
36 to 36.9 gravity	1.75
37 to 37.9 gravity	1.80
38 to 38.9 gravity	1.85
39 and above	1.90

(Humble Oil and Refining Company Only)

39 to 39.9 gravity	**1.90**
40 to 40.9 gravity	**1.95**
41 to 41.9 gravity	**2.00**
42 to 42.9 gravity	**2.05**
43 to 43.9 gravity	**2.10**
44 and above	**2.15**

(Magnolia Petroleum Company)

Below 34 gravity	1.15
34 to 35.9	1.25
36 to 37.9	1.35
38 and above	1.45

CRANE-UPTON COUNTIES

Posted by Kay County Gas Company

Below 26 gravity	$ .80
26 to 26.9 gravity	.85
27 to 27.9 gravity	.90
28 to 28.9 gravity	.95
29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.20
34 to 34.9 gravity	1.25
35 to 35.9 gravity	1.30
36 and above	1.35

WYOMING-MONTANA

Wyoming

Byron	2.25
Ferris	1.53
Elk Basin	2.40
Grass Creek	2.40
Rock Creek	2.40
Lost Soldier	1.10
Lance Creek	2.40
Mule Creek	1.75
Notches	.65
Big Muddy	2.25
Osage	2.15
Hamilton Dome	.73
Pilot Butte	1.75
Torchlight-Greybull	2.15
Lander	1.10

Salt Creek (Midwest Refining Company)

29 to 29.9 gravity	1.73
30 to 30.9 gravity	1.81
31 to 31.9 gravity	1.89
32 to 32.9 gravity	1.97
33 to 33.9 gravity	2.05
34 to 34.9 gravity	2.13
35 to 35.9 gravity	2.21
36 to 36.9 gravity	2.29
37 to 37.9 gravity	2.37

Montana

Sunburst	1.15
Cat Creek	2.15

NEW MEXICO

Artesia	1.95
Hogback	1.95

CANADIAN CRUDE

Oil Springs	2.95
Petrolia	2.80

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.

Haynesville Test Shows More Oil at 4548 Feet and Will Be Drilled Still Deeper

Shreveport, La.—Latest reports from Haynesville state that W. R. Ramsey is mudding up to drill deeper in his deep test on the Gilliland Oil Company's Taylor "B" Lease, in which a third test was made recently at a depth of 4548 feet. The latest deepening of this hole yielded a noticeable increase in the volume of oil, as compared with the amount found in the course of the test made a fortnight ago at 4530 feet; but, unfortunately, the percentage of salt water showed a greater increase.

Other important deep tests are scheduled to be made during the current week in Dick Norton's Josey-Massey well, at Cotton Valley, and in two of the Magnolia Petroleum Company's wells in section 24-21-15, of the Pine Isand district, Caddo Parish. Casing has been set in Norton's well at 4246 feet, and in the latter wells at 3578 feet and 3588 feet.

The Ohio Oil Company's mile-deep well on the Cox farm, in section 23-21-10, has been abandoned, with junk in the hole, at a total depth of 5957 feet.

Smitherman & McDonald are drilling at 4730 feet in their Oakley well, in section 29-23-11, near Spring Hill, and the Southern Crude Oil Purchasing Company is sidetracking after having plugged back from 4620 feet to 3320 feet in its Munn-Wadley well, in section 1-22-10, on the Shongaloo structure, in Webster Parish.

The surprise of the week comes from the Urania field, in La Salle Parish, where the Natural Gas & Fuel Corporation brought in a gasser which later turned into a very good oil well in section 20-10-2e of the extreme northeastern part of the field, to which area very little attention has been given since the early stages of development. The well, which is on the property owned by the Urania Lumber Company, came in with an initial production of 10 million cubic feet of dry gas from eight feet of sand at a total depth of 1588 feet. Soon after the well came in, a spray of oil appeared, accompanied by a decline of gas pressure, which continued until the well yielded at the rate of 300 barrels of oil per day, with three million cubic feet of gas.

All the acreage within the immediate vicinity of this surprising well is owned by two companies, the Natural Gas & Fuel Corporation and the Louisiana Oil Refining Corporation, so it is considered unlikely that a drilling boom will develop immediately.

More surprising than the completion of this new well, however, is the revival of two old wells on the Natural Gas & Fuel Corporation's "B" Lease in section 18-10-2e, near the town of Urania, in the northern part of the field. Although both wells are more than four months old, having been comcompleted last May, both are making more than four times as much oil as when first borught in. Urania B-2 is said to be flowing in excess of 4000 barrels of oil per day, containing five per cent water, and Urania B-3 is making around 1500 barrels per day, 30 per cent water and sediment.

LOUISIANA-ARKANSAS

	Sept. 22 1926
Caddo Light	
38 gravity and above	2.45
35 to 37.9 gravity	2.35
32 to 34.9 gravity	2.25
*Below 32 gravity	2.10
Caddo Heavy	
Below 26.0	1.40
26 to 28.9	1.55
29 to 31.9	1.70
Homer	
Below 31 gravity	1.85
35 gravity and above	2.20
33 to 34.9 gravity	2.10
31 to 31.9 gravity	2.00
Cotton Valley	
All Grades	1.20
Haynesville	
33 gravity and above	2.10
Below 33 gravity	2.00
Pine Island (Posted by Magnolia)	
Below 26	1.40
26 to 28.9	1.55
29 to 31	1.70
32 to 34.9	2.25
35 to 37.9	2.35
38 and above	2.45
Bull Bayou	
38 gravity and above	2.25
35 to 37.9 gravity	2.10
32 to 34.9 gravity	1.95
De Soto crude	2.30
Crichton	2.10
Bellevue	1.40
Jennings	1.50
Vinton	1.50
Edgerly crude	1.50
Urania	1.10
Smackover (Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)	
27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.35
Below 24 gravity	1.10
The Texas Company	
27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.30
Below 24 gravity	1.10
El Dorado and Lisbon (Atlantic)	
37 and above at 60 degrees	2.30
35 to 36.9 gravity	2.20
33 to 34.9 gravity	2.10
Below 33 gravity	2.00
East Field (Calion)	.95
Stephens District	
26 gravity and above	1.65
Below 26 gravity	1.45

*The Texas Company's posting on below 32 gravity is $1.85.

Osage Map Displayed

Tulsa, Okla.—To assist the Mid-Continent oil men in checking the leases offered in the Osage oil lease auction sale to be held September 30, Kirk M. Nagle has prepared a map of the Osage oil country. A copy of this map is on display in the lobby of the Exchange National Bank.

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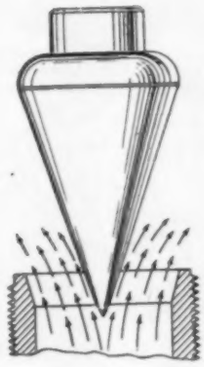

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COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	2	21	1	18	..	1	1	2	50	705
California	20	16	19	15	..	..	1	1	8,470	5,479
Colorado	..	..	..	..	..	..	..	..	....	.....
Indiana	2	2	..	1	..	1	2	..	....	20
Illinois	7	13	3	10	..	..	4	3	23	423
Kansas	25	32	19	17	..	..	6	15	3,205	2,327
Kentucky	29	34	22	25	2	1	5	8	223	255
Louisiana	31	30	15	12	6	3	10	15	4,890	1,270
Michigan	3	4	3	3	..	..	..	1	95	85
Mississippi	..	..	..	..	..	..	..	..	....	.....
Montana	7	7	4	4	1	1	2	2	180	275
Nebraska	..	..	..	..	..	..	..	..	....	.....
New York	6	15	6	15	..	..	..	..	12	51
New Mexico	..	..	..	..	..	..	..	..	....	.....
Ohio	47	38	31	26	8	5	8	7	707	749
Oklahoma	99	116	45	63	6	7	48	46	10,020	11,087
Pennsylvania	82	92	73	81	4	8	5	3	198	440
Tennessee	..	..	..	..	..	..	..	..	....	.....
Texas	176	216	127	156	3	7	46	53	42,004	69,738
Utah	..	..	..	..	..	..	..	..	....	.....
West Virginia	26	29	10	6	9	17	7	6	130	50
Wyoming	6	12	6	12	..	..	..	..	1,300	2,410
Totals	568	677	384	464	39	51	145	162	71,507	95,364

Texas

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Bridwell-Heydrick Oil Co.'s Netherton 1	*	1769
Abercrombie-Taylor 2	*	1370
G. J. Brown et al's Perkins 4	30	1026
Gates et al's Thomas 12	70	1167
Grebin et al's Young 1	*	1540
Humble O. & R. Co.'s Hamilton 16	20	1268
Jeffers & Newby's Andrews 4	*	1030
Kimmel & Dillard's Parkey 1	*	1650
Kruger & Wilson's Turbeville 1	*	1550
Marland Oil Co.'s Turbeville 5	200	1499
Turbeville 6	200	1518
Plains Prod. Co.'s Pease 1	*	1505
Simms Oil Co.'s Turbeville 7-A	200	1510
Simms & Consolidated Oil Co.'s Turbeville 2, blk 146	10	1505
Texas Co.'s Turbeville 6-C	345	1526
Turbeville 7-C	1400	1526
Turbeville 8-C	1020	1522
Texhoma O. & R. Co. et al's Thomas 2	*	1209

BIG LAKE

Company, Well and Location	Initial Production Bbls.	Depth
Big Lake Oil Co.'s University 76	705	2945
University 86	490	2950
Texon Oil & Land Co.'s University 48	420	3039
University 50	225	2996
University 51	265	3085

BROWN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Amerada Pet. Corp.'s M. E. Fry 2	*	1369
J. W. Fry 1, sec 622	325	1306
Blackstone Oil Co.'s Jones 1	*	1399
J. S. Cosden et al's Gafford 10	25	1238
East-Westerman 2	60	1243
Mrs. T. S. Williams 1-A	†	580
Campbell & Rosenfield's Pierce 1	*	1420
Curry & Moore et al's Kilgore 1	10	1302
Gillespie et al's Newton 7	40	1289
Gilman et al's Newton 18	20	1264
Gilman-McMurray et al's Moore 8	25	1243
Humble O. & R. Co.'s J. C. Kilgore 9-B	150	1180
Kone Production Co.'s Foster 4	225	1211
Wm. Vanderburg Lester's M. E. Fry 4	200	1214
Louisiana O. & R. Co.'s Henslee 5	200	1285
Mid-West Exploration Co.'s Suttle 11	30	1152
Moore et al's Brannum 1	†	550
Pool et al's Newton 1	*	1192
Prairie O. & G. Co.'s Woolridge 8	60	1284
Sawyer et al's White 1	360	1245
E. L. Smith Oil Co.'s Brooks 1	*	1410
The Texas Co.'s Hickman 2	300	1187
West & H-Y Oil Co.'s Newton 11	25	1216
Williamson et al's Keller 4	60	1151
Keller 5	150	1165
Wolmack & Loofborrow's Funderbunk 1	*	1545

BURKBURNETT

Company, Well and Location	Initial Production Bbls.	Depth
Bridwell-Heydrick Oil Co.'s Ward-Todd 7	500	1879
R. R. Clark et al's Ward-Todd 8	1250	1853

CARSON COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Prod. Co.'s Burnett 16	40	3112
Marland Oil Co.'s Burnett 7	30	3030
The Texas Co.'s Burnett 8	100	3075

CALLAHAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Borealis Oil Co.'s Finley 1	*	2750
Prairie Oil & Gas Co.'s Baum 2	30	1406
Bond 6	20	1403

COLEMAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Ross-Wright et al's Morris 1	*	3154

COMANCHE COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Carter et al's Cogburn 1	*	3100
Kirk-Brewer et al's Mauncey 1	*	3165

COOKE COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
John W. Hooser's J. A. Dennis 3	105	1277
C. C. Lanier et al's A. Hyman 2	55	1267
A. Hyman 3	85	1287
Leonard & James et al's Hamilton 1	*	1925
Sun Oil Co.'s A. Hyman 2	15	1192

EASTLAND COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Eastland Oil Co.'s Proctor 1	*	3045
Hickok Prod. & Dev. Co. et al's Briggs-Owen 1	*	3420
Magnolia Pet. Co.'s P. O. Harris 12	*	1425
Mook-Texas Oil Co.'s Casey 2	¶8	3033
Murchison-Fain Oil Co.'s Nunnally 1	*	1805
Texas-Pacific Coal & Oil Co.'s Butler 27	*	3495

GRAY COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Prod. Co.'s P. A. Worley 1	150	3043

HUTCHINSON COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Alaska Pet. Co.'s E. Cockrell 1, shot	150	3069
Amerada Pet. Corp.'s J. A. Whittenburg 3-A, shot	150	2965
Buffalo Oil Co.'s Smith 1, shot	200	3083
Coble-Whittenburg Oil Co.'s J. A. Whittenburg 1, shot	75	2938
Echo Oil Co.'s Smith 3	700	2760
Smith 4, shot	200	2840
Empire Gas & Fuel Co.'s J. F. Weatherly 2, shot	200	3037
Fly-Blackburn Oil Co.'s J. F. Weatherly 2	100	2970
Gulf-Cline & Panhandle Ref. Co.'s Dial et al 24, shot	1085	2812
Marland Oil Co.'s J. A. Whittenburg 4-A, shot	100	2935
S. D. & W. W. McIlroy's Smith 4, shot	100	3017
McMan Oil & Gas Co.'s Johnson-Gray 2	340	2931
Phillips Pet. Co.'s J. A. Whittenburg-Coble 18	100	2985
Johnson-Dorsett 1	300	2736
Johnson-Walling 1	180	2924
Phillips Pet. Co. & Gibson Oil Corp.'s J. A. Whittenburg-Patton 2, shot	300	2929
J. A. Whittenburg-Patton 4	100	2931
J. A. Whittenburg-Patton 5	100	2908
Prairie O. & G. Co. & Phillips Pet. Co.'s Johnson 6-A	50	2944
Johnson 2-B, shot	200	2954
Westex Oil Co.'s J. A. Whittenburg 8	800	3015
White Eagle O. & R. Co. et al's Johnson 7, shot	75	2773
Hedgecock 1	500	2880

JACK COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Seaboard Oil & Gas Co.'s Cullers 2	110	2092
Security Drilling Co.'s First State Bank 1	40	2366

K-M-A AND IOWA PARK

Company, Well and Location	Initial Production Bbls.	Depth
T. F. Hunter et al's Hines 1	*	1920
O'Donohue & Gates' Allen-Kemp 1-C	*	1851

MONTAGUE COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Farlan Oil Co.'s J. W. Maddox 3	70	897
Humble O. & R. Co.'s J. W. Maddox 7	65	894
J. W. Maddox 8	80	890
The Texas Co.'s Isaac Gist 22-A	15	935
Oldham 18	115	1120
Oldham 19	100	1127
Oldham 20	70	1114
Oldham 23	90	976
Riddle 1	210	1160

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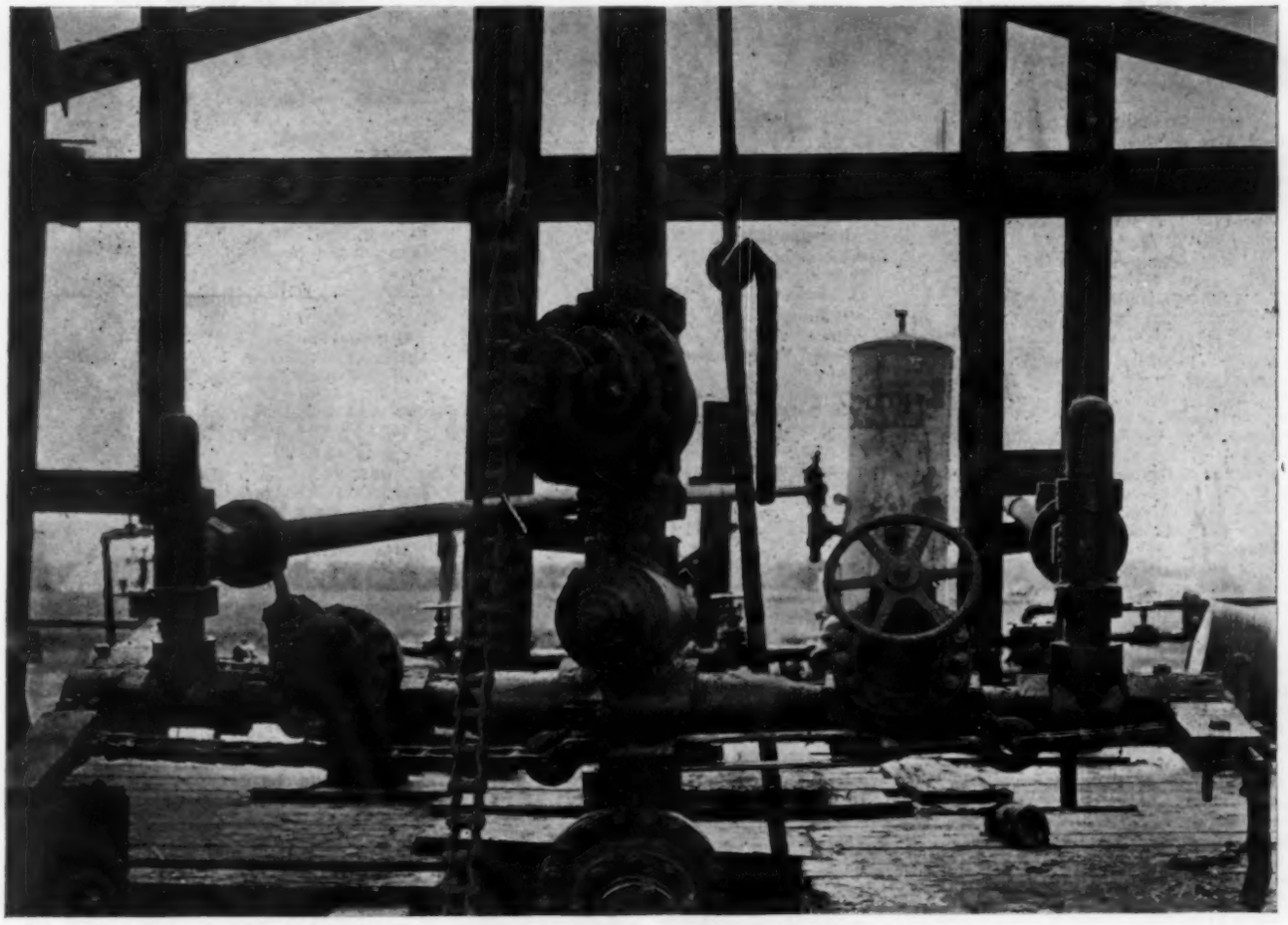

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Company, Well and Location	Initial Production Bbls.	Depth
Texhoma O. & R. Co.'s J. W. Maddox 2-A	80	897
A. C. Walker et al's Howard et al 1	75	1162
NIGGER CREEK		
Atlantic Oil Prod. Co. & Kerr-Gillette's Rosson 2	140	2844
MITCHELL COUNTY		
The California Co.'s Morrison 16	60	3050
PALO PINTO COUNTY		
Hart Oil Corp.'s Cardwell 1	*	2050
Orme 1	*	2060
Moore-Snebold et al's Stuart 4	*	1720
SHACKELFORD COUNTY		
Gibson-Johnson et al's Newell 1	*	1830
H. G. Gwinnupp et al's Chapman 1.	*	1590
Harrell et al's Sidebottom 1	*	735
Roeser-Pendleton, Inc.'s W. I. Cook 10-B, sec 84	800	1332
Roeser-Pendleton & Marland Oil Co.'s Cook 26-A, sec 84	100	1150
STEPHENS COUNTY		
Meredith-Thomas et al's Chesley 1	†	2110
Swensondale Oil Corp.'s Taylor 1	5	3460
SOUTH VERNON DISTRICT		
Empire Gas & Fuel Co.'s W. H. Stphens 49	20	1350
Humble O. & R. Co.'s W. T. Waggoner 15-H	125	2396
Phillips Pet. Co.'s W. T. Waggoner 2-M	*	2522
H. W. Weir et al's Zipperle 1	*	1330
THROCKMORTON COUNTY		
Gulf Prod. Co.'s J. H. Lee 1	¶4¼	1165
UPTON COUNTY		
Humble O. & R. Co.'s A. S. Burleson 1	115	2190
Ricker-Dodson 1	165	2182
Independent O. & G. Co.'s Len Taylor 6	45	2213
McMan Oil & Gas Co.'s Mrs. Baker 1	25	2167
Marland Oil Co.'s A. S. Burleson 19	130	2174
A. S. Burleson 20	75	2180
Sanger Bros. 10	70	2245
Sanger Bros. 11	35	2260
Sanger Bros. 12	50	2257
Roxana Pet. Corp.'s E. S. Hughes 1	240	2165
YOUNG COUNTY		
Barkley-Harris et al's Johnson 1	*	700
Barnes et al's Brown 3	15	561
Casey et al's Steen 1	*	550
Madden-Hunt et al's Benson 6	30	895
Murchison-Fain & Marland Oil Co.'s R. Campbell 4-E	*	988
Pitzer-West et al's Keller 8-C	50	1950
Ruff et al's Stewart 2	90	829
Simms Oil Co.'s Routan 2	40	869
Simms-Cosden & Consolidated Oil Co.'s Gregg 3	5	605
The Texas Co.'s Beardon 16	10	1097
Stewart 2	8	795
Wichita Prod. Co.'s Boren 8	5	1075
EAST TEXAS		
Marion County—		
Gulf Ref. Co.'s Potter 5, Robert Potter H/R Survey	*	2935
Panola Field—		
D. Thompson's Listen 1, S. H. Hardin H/R Survey	*	2520
Waskom Gas Filed, Harrison County—		
C. C. Robbins et al's Abney 2, J. J. Blair H/R Survey	¶15	1947
GULF COAST		
Spindletop—		
Gulf Production Co.'s Weed 1	2500	3100
Weed 4	4100	4244
Mann 4	2500	3000
Jack Duff 2	1000	3360
Atlantic O. P. Co.'s McLean 5	2500	3325
McLean 6	2800	3250
McLean 6	1500	3345
Batson—		
Kirby-Capitol Oil Co.'s Hodges 2, wo	300	3425
Sour Lake—		
Minor Oil Co.'s Fee 78	6	500
Hull—		
Hull Oil Co.'s Harrison 4	600	3100
Empire Gas & Fuel Co.'s Barngrover 20	1100	3200
Pierce Junction—		
Rio Bravo Oil Co.'s Settegast 3	35	3875
Navarro Oil Co.'s Cain 3	400	4060
Orange—		
Brownie-Babette Oil Co.'s McLean 3	1500	3600
Vinton—		
Vinton Pet. Co.'s Gray 56	200	2450
Evangeline—		
Abshier Bolyard Oil Co.'s S. F. S. 3	250	1780
R. N. Hines' Martin 3	*	2050

California

Company, Well and Location	Initial Production Bbls.	Depth
Long Beach—		
R. R. Bush's Hillseth 2	175	4785
Cragen & Gray's Los Cerritos 1	250	4820
Craig-Burns' Oil Co.'s Los Cerritos 22	100	4860
Henderson Pet. Corp.'s Los Cerritos 24, wo	200	4825
Julian Pet. Corp.'s Castle 1	125	4850
Keck-McWhorter's Cerritos 2	150	4815
Ring Pet. Corp.'s Grant 5A	75	4830
Athens-Rosecrans—		
Barnsdall Oil Co.'s O'Dea 13	400	4980
Baldwin Hills—		
Brownmoor Oil Co.'s No. 1, wo	150	2575
Shell Co.'s Rindge 5, wo	495	....
Standard Oil Co.'s Vickers 1-10	147	2600
Huntington Beach Townsite—		
Standard Oil Co.'s Huntington 1	140	3084
Santa Fe Springs—		
California Pet. Corp.'s Foix 3, wo.	460	....
General Pet. Corp.'s No. 24	440	3848
Montebello—		
St. Helens Pet. Co.'s McDonald 1.	125	3550

Mexican Production Zones

Mexico City.—There has been a decree issued by President Calles establishing the zones of production of petroleum in the country. The commission that determined these zones was composed of Joaquin Sanatella of the Department of Finance, Hilary N. Branch, representing the Petroleum Producers Association, and Trinidad Paredes of the Department of Industry, Commerce and Labor.

Start Core Drills

The Pan-American Petroleum and Transport Company has now finished the aerial photography of its fields in Mexico, and has geographical expeditions mapping out unexplored properties. It has now begun core drilling to obtain information as to sub-surface conditions.

Open Accounting Office

Tulsa, Okla.—L. E. Cahill & Company, certified public accountants, income tax specialists and engineers with headquarters at Tulsa announce the opening of a branch office at 102 Central Building, Amarillo, Texas. D. C. Stapleton is in charge of the new branch. The company now has branch offices at Wichita Falls, Amarillo, Wichita, Kansas, Oklahoma City and Joplin, Missouri.

Company, Well and Location	Initial Production Bbls.	Depth
Seal Beach—		
Marland Oil Co.'s Bixby 2, wo	1833	....
Midway District—		
North American Consolidated Oil Co.'s No. 34	175	4260
Standard Oil Co.'s No. 44	130	3200
Poso Creek—		
Superior Oil Co.'s Test	*	2115
Ventura Avenue—		
Shell Co.'s Taylor 13	2900	5910

Mountain States

WYOMING

Company, Well and Location	Initial Production Bbls.	Depth
Salt Creek—		
Salt Creek Consolidated Oil Co. No. 24A, SW¼ 31-40-78	100	2100
No. 33L, SE¼ 23-40-79	500	2400
Midwest Oil Co. No. 6L, NW¼ 2-39-79	400	2470
No. 15A, SE¼ 10-40-79	100	2211
Wyoming Oil Fields Co. No. 23, NE¼ 26-40-79	150	1126
E. T. Williams Oil Co. No. 15A, SW¼ 11-39-79	50	2400

MONTANA

Company, Well and Location	Initial Production Bbls.	Depth
Kevin-Sunburst—		
Diamond Oil Co. No. 7, NE¼ 33-35-2	110	1485
Wolf Development Co. No. 1, SE¼ 27-35-2	*	1500
Cope Oil Co. No. 2, SE¼ 23-35-2	15	1500
Ferdig Oil Co. No. 8, NE¼ 1-34-2	*	1485
Trapp Oil Co. No. 1, SW¼ 13-34-2	40	1400
Barnhill Units No. 1, NE¼ 18-34-1	¶	1455
Ohio Oil Co. No. 10, 4-35-2	15	1690

Louisiana

Company, Well and Location	Initial Production Bbls.	Depth
Bellevue Field—		
Autrey et al's Connel 5, 15-19-11	*	457
Gulf Ref. Co.'s Bliss & Wetherbee A-21, 15-19-11	10	425
Geo. W. Wetherbee's Fee A-13, 15-19-11	10	395
Caddo Parish—		
W. D. Chew's State 5, 34-21-16	40	1928
Dixie Oil Co.'s Muslow 17, 7-20-15	10	2262
Gulf Ref. Co.'s Ferry Lake 248, 15-20-16	15	2265
Musloy E-1, 35-21-15	*	4963
Morris Drilling Co.'s Fee 1, 1-20-16	10	2239
Page & Caldwell's Hobbs 1, 29-21-15	*	2250
Ramsey et al's Muslow 1, 32-21-15	*	2100
The Texas Co.'s Harrell 54, 4-21-16	20	2395
Monroe Gas Field—		
Feazel Trust's Archer 1, 22-20-4e, Morehouse Parish	¶37	2152
Palmer Corp.'s Cole 3, 43-19-4e, Ouachita Parish	¶5	2175
Ruston Dr. Co.'s Mayfield 1, 30-20-4e Union Parish	¶10	2165
Urania Field, La Salle Parish—		
Montague Oil Co.'s Zenoria 3, 11-9-1e	50	1505
Natural Gas & Fuel Corp.'s Urania B-2, 18-10-2e	4000	1521
Urania M-4, 19-10-2e	50	1531
Pima Oil Corp.'s Urania B-7, 7-10-2e	75	1535
Rochelle Oil Co.'s Tremont 1, 30-10-2e	100	1535
Shreveport Oil Corp.'s Pendarvis 1, 26-10-1e	50	1506

Arkansas

Company, Well and Location	Initial Production Bbls.	Depth
Irma Field, Nevada County—		
Bemis et al's Ellis 5, 2-14-21	50	1141

Kansas

Company, Well and Location	Initial Production Bbls.	Depth
Butler County—		
White Eagle Oil & Ref. Co. et al, Seward 2, SWc SE SW 12-27-7	600	2692
Phillips Pet. Co., Phillips-Seward 1, NEc NW 13-27-7	150	2690
Johnson et al, Blakeman 2, NWc NE SW 3-28-6	500	3054
Phillips Pet. Co., Seward 1, NWc NE 13-27-7	*	2773

Herk U. Lee's Log Book

Published Monthly by the
HERCULES SUPPLY COMPANY, of DALLAS
to help you remember where you got the good service
Edited by HERK, Himself

Spudding In

FOLLOWING six years spent in securing rights on some of the best looking stuff in the supply field, the Hercules Supply Company is now preparing to drill its holdings more extensively. To do the actual drilling we have secured Mr. Herk U. Lee, whose orders are to keep going until good production is obtained. Mr. Lee will use a Remington outfit and will keep an interesting log of the things he comes in contact with day by day. The Log will come to you monthly and will be made up of interesting reading matter. The sole purpose in publishing it is that it may "help you remember where it was you got the good service." The Log like our service, is given with a smile.

J T McCARTHY, JR.

New Neighbors

THIS is an advancing world and new relations and new values are being established every day. There is the instance of time. We realize in a vague sort of way that the airplane travels faster than a train and that commercial aviation is beginning to develop. But how many wives in

Herk U. Lee's Log Book

Published Monthly by the
HERCULES SUPPLY COMPANY, of DALLAS
to help you remember where you got the good service
Edited by HERK, Himself

The Obstacle Is the Thing

MOST of the time we are prone to complain of the difficulties that confront us. Yet, if we only stop to realize it, obstacles in the path provide ninety per cent or more of the satisfaction in life.

Jack Dempsey could probably step in the ring tomorrow, without training, and score a knockout in the first round against Sandi Esquivel, the lightweight just out of Texas University. There is no obstacle there and no one would pay to see the bout. Dempsey would get no satisfaction from his victory and no reward. Gene Tunney is an obstacle and hence the big fight—and the big rewards.

If the girl and boy in the movies met, married and moved into their new home in the first few feet of film the audience would demand its money back. People pay to see the boy and girl overcome big obstacles and dangers before the final close-up. So though there are groans in the audience when the hero is stricken with tropical fever and the heroine spirited away by selfish guardians, it is the thing

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Company, Well and Location	Initial Production Bbls.	Depth
Manhattan Oil Corp., Lobe 6, SWc NW SE SE 28-27-7	*	2741
Elk County—		
Roth & Co., Hanna 10, NWc NE SW 13-29-8	100	2997
Denton Bros., Denton 15, SWc 34-29-9	10	2303
Greenwood County—		
Sinclair Oil & Gas Co., Browning 44, C SE SE 19-22-10	120	2425
Browning 46, C S H SW 20-22-10	125	2337
Simmons & Texas Co., Fankhauser 4, NEc NW SW 4-22-12	60	1864
Titus et al, Holderman 1, NEc NW 9-22-12	100	1830
Manhattan Oil Co., Craft 10, NEc SW SW 25-23-8	75	2577
Roth, Faurot et al, Thrall 57, SWc SE SW 28-23-10	25	2330
Gore & Skelly, Inthrum 1, SWc NE 4-23-13	40	1651
Haverhill Pet. Co., Inthrum 14, C S L S H SE 4-23-13	30	1635
Mid-Continent Pet. Co., Shadel 10, SEc NE SE SW 15-23-13	10	1687
Roth, Faurot & Manhattan O. Corps., Cartwright 14, NEc NW SE NE 1-23-9	35	2335
Mission Oil Co., Halverson 2, NWc NE 26-24-9	50	2118
Manhattan Oil Corp., Phillips Co., Freeman 4, SEc NE NE 19-24-11	125	1837
Lindamood 4, NEc SE NE 19-24-11	150	1845
Manhattan Oil Corp. et al, Wells 1, NWc NE 33-23-10	*	2350
Lyon County—		
McCollough et al, Bradfield 2, SWc NW NE 25-21-10	900	2583
Leeward Pet. Co., Morris 1, SWc NE 9-19-12	*	2527
Riley County—		
Pawnee Oil & Gas Co., Marks 1, SWc NE NW 26-10-6	*	2440
Chautauqua County—		
Noble Oil Co., Briggs 1, NWc NE 7-33-10	*	....

Oklahoma

Company, Well and Location	Initial Production Bbls.	Depth
Carter County—		
Magnolia Pet. Co., Bumpass 3, NWc NE SE 33-1-3	150	2660
McClain 1, SWc NW NE	12	3029
Wilson 2, SEc 16-2-2	30	1358
Wilson 3, NEc 21-2-2	35	1350
Amerada Pet. Corp., Baptist 26, SWc NW SE 20-5-1	45	1630
Creek County—		
Riverside Oil & Ref. Co., Rector 2, NE SW SW 5-18-7	120	2510
Alvard & West, Fry 4, C E L NW SE 14-17-8	10	2293
Barnsdall Oil Corp., Mitchell 4, NEc SE SW 22-17-8	20	2314
Transcontinental Oil Co., Mitchell 2, C E L NE SW 22-17-8	60	2321
R. J. Jennings, Tiger 1, NWc SE 36-15-7	30	2614
Skelly Oil Co., McKan 15, NEc NW SW 12-14-8	10	2533
Westland Oil Co., Walker 2, SWc NW 22-17-9	95	2472
McColloch Oil Co., Johns 1, NWc SE 4-17-10	80	2665
Pioneer Pet. Co.'s Bucktrot 10, SEc SW NE 24-17-10	15	2445
H. U. Bartlett, Ricks 2, SEc NW NW 21-16-11	5	1792
Wilcox Oil & Gas Co., Scott 13, NWc NE NE 20-14-10	25	3463
Empire Gas & Fuel Co., Unallotted 2, NEc NW SW 32-14-10	140	3417
Shaffer Oil & Refining Co., Fisher 13, C SE NE 18-18-7	*	2931
Roxana Pet. Co., Smith 1, NWc SE 18-19-9	*	3324
Holmes et al, Timothy 5, SEc SW NE 22-19-10	*	2085
Bu-Vi-Bar Pet. Co., Kiefer 1, NWc NE SW 33-19-10	*	3235
Shaffer Oil Co., Hughes 1, NEc SW NE 12-16-10	*	2188
Garfield County—		
Sinclair Oil & Gas Co., Austin 6, SWc NE SW 35-22-4	33	2247
Kisner 34, NWc 19-22-3	15	4258
Kathrine Oil Synd., Cox 1, NWc 26-23-7	*	3220
Failing & Lawson, Gayton 1, NWc SW NW 35-23-3	*	2280
Sinclair Oil & Gas Co., Belveal 25, NEc 24-22-4	*	4326
Hartley 22, NEc SW NW 18-22-3	*	4356
Kisner 32, SW NW NW 19-22-3	*	....
Laura Crews 6, NEc SW 30-22-3	*	2883
Beople et al, Fee 1, NWc NE 11-21-4	*	....
Garfield Buell et al, Secor 1, NWc SE 11-20-8	*	4817
Grady County—		
Carter Oil Co., Adair 1, SWc SE NW 27-3-5	¶25	1471
Clark & Cowden, Kilgore 1, SEc NW NW 27-3-5	20	1735
Briscoe & Hall, Nation 1, SEc NW SE 34-3-5	150	1475
Hughes County—		
Magnolia Pet. Co., J. D. Garner 1, NEc SW NE 5-7-8	150	4035
Producers & Refiners Corp., Sallie Harjo 1, C SW SE 11-7-8	¶8	2985
Detrick et al, Ana Lee 1, SEc NW 10-9-10	*	3343
Dixie Oil Co., Diamond 1, SEc NE 18-18-10	*	4149
Garner 2, NWc NE 5-7-8	*	4055
Jefferson County—		
Hivick et al, Agges 1, NWc NE SE 13-7-6	¶15	885
A. C. Brown, Seay 7, C S L NW NW 33-6-5	*	1378
Kay County—		
Comar Oil Co., Duncan 12, SEc NW SW 21-29-1	411	3427
Arkansas Fuel Oil Co., Moore 1, SWc 3-27-1	385	3438
Wentz Oil Corp., Mahoney 14, SWc NW SE 28-25-1	1336	4291
Comar Oil Co., McCullough 1, SWc SE 5-28-1	*	2450
Okmulgee County—		
Le Bean et al, Bruner 5, C W L NE SW 23-15-11	110	2821
The Texas Co., Jones 2, SWc NW 28-13-11	¶3	3175
Eagle Pitcher Lead Co., Hawkins 1, SWc SE NW 4-11-12	¶⅝	1552
The Texas Co., Bruner 9, C S L SE SE 16-15-14	100	2297
McCullough Oil Co., Garnett 5, NEc 21-15-14	200	2256
J. L. Selby, Anderson 33, C NE NW 35-14-14	15	1161
Columbus Drilling Co., Doyle 3, NEc SE NW 28-13-14	15	1939
W. H. Elson and Carter Oil Co., Grayson 1, NWc SE 24-16-14	*	2102
Harsha and Delaney, Peters 4, NWc SE SW 27-16-14	*	1902
Abbott & Dillard et al, Smith 1-A, NEc NW NE 11-14-12	*	2738
C. L. McMahon, McKinney 1, SEc NE SW 16-15-14	*	2473
McCullough Oil Co., Berryhill 9, NWc SE NE 19-14-13	*	2923
J. L. Powers, Anderson 2, SEc SW NE 8-14-15	*	1762
W. B. Pine, Manual 4, C S L SE SE 10-12-13	*	2703
Osage County—		
Phillips Pet. Co., No. 2, SE SW SW 21-26-6	450	2982
Twin State Oil Co., No. 12, SEc NE SE 21-25-6	425	2733
Comar Oil Co., No. 1, SWc 6-23-9	40	2456
Skelly & Moore No. 1, SEc SW 35-22-8	150	2479
Elliott & Smith, No. 26, NEc SW NW 30-21-12	25	2055
Wrightsman No. 3, NE NW NW 31-25-8	*	....
Barnsdall Oil Corp., No. 1, SEc NE 21-23-8	*	2943
Beacon Oil Co., and Alcora, No. 26, SEc NW 21-23-8	*	3500
Continental Oil Co. and Prairie Oil and Gas Co., No. 1, SW NW SW 7-23-9	*	2170
Kewanee Oil & Gas Co., No. 10, NWc SE SE SW 19-21-12	*	2055
Devonian Oil Co., No. 1, NEc SW 35-20-11	*	2550
Pawnee County—		
Minnehoma Oil Co., Mullendore 8, NWc 24-21-7	250	2715
Marland Oil Co. and Mid-Continent Pet. Co., School land, SWc SE NW 33-20-5	367	3721
Prairie Oil & Gas Co., Wasson 19, NEc SW NW 24-20-8	*	2973
Devonian Oil Co., Miller 1, SW NE SE 35-22-6	*	2941
Magnolia Pet. Co., School land 5, SEc SW SE 16-20-6	*	3230
Payne County—		
Empire Gas & Fuel Co., Liston 4, NEc NW NW 26-18-3	60	4292
New England Oil Pipe Line Co., Broyles 3, SE NE NE NW 26-18-4	85	1978
Seminole County—		
Barnsdall Oil Corp., Sullivan 1, NEc SW 10-9-5	26	4371
Gypsy Oil Co., Carter 1, SEc NE NW 24-9-6	4155	4179
Bowlegs 2, SEc SW NE 18-9-8	100	3269
Magnolia Pet. Co., Scott 3, SWc 33-8-8	20	4035
Sequoyah County—		
Citizens Gas Co., Hicks 1, NEc SW SW 15-11-26	¶1½	2288
Stephens County—		
Magnolia Pet. Co., Dorn Russell 8, SEc 25-1-9	33	2189
Walker Valley Oil Co., Schick 4, SEc SW SW NE 27-1-8	12	1684
E. S. Carry Oil Co., Plemmons 2, SE SW NE 24-1-9	*	2402
Pittsburg County—		
Barker & Hailey, Wilkins 1, SWc NW NW 8-2-16	*	745
Tulsa County—		
Riverland Oil Co., Anderson 2, SEc NW SE NW 34-19-11	*	2327
Sherman et al, Barnett 1-A, NW NE SE 1-18-12	*	1510
Franchott and Mid-Continent Pet. Co., Sofie 15, C E L SW NW 22-17-13	*	1695
Wagoner County—		
W. B. Pine, Drew 4, SEc SW 26-17-16	*	1382
Mitchell Oil Co., Peters 1, SWc 31-17-17	*	1470
Biles 1, NEc NW SE 21-16-16	*	1900
Beckham County—		
W. D. Sheddon, Roberts 1, SWc NW 21-9-23	*	650
Comanche County—		
John Graham, Gambell 2, SWc 34-4-10	*	1471
Cook & Graham, Saunders 1, SWc SE NE 4-3-10	*	1452
Noble County—		
Champlin Refining Co., Schoop 1, SWc NW 26-22-2	*	5448
Magnolia and Bu-Vi-Bar, Taylor 1, SWc NW 15-21-2	*	4622
Okfuskee County—		
Lou Umburn and Future Dev. Co., Barnett 1, NWc SW NW 21-10-11	*	3828

Eastern States

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
South Penn Oil Co., Bingham 112	2	....
Bingham 501, tract 16	3	....
Bingham 269, tract 26	3	....
Bingham 439, tract 96	3	....
Bingham 399, tract 1	2	....
Bingham 570, tract 113	2	....
Whipple 2	3	....
Hamlin 106	2	....
Fee 1	3	....
Jones 213	2	....
Cotton 1	2	....
Middaugh 4	2	....
Kendell 56	2	....
Culbertson 54	2	....
Hazlewood Oil Co., No. 1, tract 67	2	....
No. 1, tract 68	2	....
No. 21, tract 72	2	....
No. 21, tract 73	2	....
No. 25, tract 13	2	....
Forest Oil Co., Fisher 1	3	....
Fee 128	12	....
Hansner 8	2	....
T. P. Thompson, Borden 1	2	....
Borden 2	*	....
Petroleum Reclamation Co. Mott 17	3	....
Pratt 18	3	....

Company, Well and Location	Initial Production Bbls.	Depth
S. H. Elder & Co., Vincent Heirs 18	2	. . .
T. H. Kennedy, Bingham 490, tract 142	3	....
Storms & Coast, Hanes 1	3	....
Melvin & Co., Lovell 1	4	....
G. L. Rhodes & Co., Emerson 1	3	....
L. M. & A. L. Lilly, Marvin 1	3	....
Sprague & Hifler, Keller 1	3	....
H. E. Camp Estate, Bingham 1	3	....
Snyder & Bouton, Miller 6	3	....
Harris Oil Co., Bingham 188, tract 33	3	....
Piper & Lloyd, Ekas 15	3	....
W. J. Healey, Healey 1	3	....
F. D. Gallup & Co., Rew 1	3	....
C. S. Knabb Trustee, Griffith 1	4	....
T. B. Wilson, Wilson 11	3	....
W. C. Kennedy Co., Kennedy 54	4	....
D. W. Daly, Bingham 369, tract 58	2	....
James George & Co., Bingham 411, tract 28	3	....
Korner Bros., Gormley 1	3	....
John Franks, Borden 1	3	....
Devore & Potter, Russell 1	3	....
M. B. Oil Co., Duke 2	*	....
Barry Bros., Bingham 1	3	....
Hooker & Co., Hooker 6	3	....
Parker Farm Oil Co., Clugston 10	3	....
W. N. Hunter & Co., Brown 34	3	....
T. H. Givin, Givin 12	3	....
Venango County—		
Grimm & Jenkins, Foster Faine 15	2	....
Foster Faine 16	2	....
McIntyre & Parsons, Friedhaber 19	2	....
Bankson Bros., Tarr 19	2	....
Green, Jones & Co., Adams 14	2	....
Jacob Sheasley, Rice 8	2	....
Grove Main & Co., Myers 16	2	....
S. P. McCalmont Estate, Moses 7	2	....
Arthurs & Dodds, Sutley 24	2	....
Culbertson Bros., Dundas 17	2	....
Price, Hope & Co., Fee 67	2	....
Friggle Bros., Friggle 61	2	....
Butler County—		
Stewart & Co., Stewart 4	3	....
Ruby & Armstrong, Bryan 6	2	....
Pat McBride & Co., McBride 4	*	....
M. Gavin & Co., McGill 2	*	....
Center-Middle Field—		
R. L. Thompson, Dennis 11	2	....
Kane Oil Co., Lot 385, tract 1	2	....
Hague & Co., Irvine 45	2	....
Clarion County—		
Vensel, Vasey & Co., Buck 4	3	....
Wilson & Co., Wolbert 1	2	....
H. W. Wilson, Vonwinkle & Co. 1	¶1¼	....
Greene County—		
Carnegie Natural Gas Co., Morgan Wade 1	¶2½	....
Dunn-Marr Oil & Gas Co., R. E. Berdine 3	¶¼	....
J. I. Eddy & Co. J. B. Smith 1	*	....
Washington County—		
E. E. Robertson, E. K. Lewis 1	5	....
Peoples Natural Gas Co., Marshall 1	¶2	....
Allegheny County—		
Newhart & Pinkerton, William Dean 1	4	....
S. S. Ferguson & Son, Ferguson 1	2	....

NEW YORK

Allegany County—		
Derby & Black, F. D. & B. tract 1	2	....
R. J. Dermitt, Dermitt 1	2	....
W. J. Weller & Co., Kinley 1	2	....
N. V. Franchot, Brandel 1	2	....
Mary J. Gerringer & Co., Gerringer 1	2	....
Charles Phillips, Phillips 1	2	....

WEST VIRGINIA

Clay County—		
Ohio Fuel Oil Co., J. B. Castro 12	15	....
J. B. Castro 13	30	....
South Penn Oil Co., O. D. Shockley 35	25	....
Virginian Gasoline & Oil Co., R. R. Lockhart 1	10	....
Eastern Carbon Black Co., B. Samples 2	¶2	....
Empire Pet. Co., J. Stalnaker 3	¶1½	....
Ritchie County—		
L. N. Rinehart, Rose Mitchell 3	30	....
Cochran & Funk, McGregor Heirs 5	*	....
Hope Natural Gas Co., C. B. Miller 1	¶1½	....
Wirt County—		
Victor Petroleum Co., George Lemon 13	2	....
Ohio Fuel Oil Co., B. F. Brown 2	4	....
V. B. Darby, Little Kanawha Log & Tie tract 1	2	....
Tyler County—		
Reno Oil Co., Rachael Hissam 6	2	....
Morgan Bros., Nelly Micken 1	*	....
Albert Neely, William Rice 1	*	....
Lincoln County—		
C. C. Wolfe, Nida-Pridemore 2	¶1¼	....
L. R. Sweetland, Sweetland 8	¶1	....
Roane County—		
Douglas Bros., C. P. Adams 1	¶5	....
Godfrey L. Cabot, Harless 2	¶2	....
Wood County—		
Power Oil Co., Volcanic tract 111	¶¼	....
Decker & Smith, Dora McAtee 3	*	....
Doddridge County—		
C. H. Piggott, J. S. Nestor 5	10	....
Wetzel County—		
Pittsburg & West Va. Gas Co., Amos Jolliffe 2	¶2	....
Calhoun County—		
W. H. & L. Bickel, Stupp Heirs 7	*	....
Gilmer County—		
McCall Oil & Gas Co., J. Stalnaker 1	*	....
Pleasants County—		
Barkwell Bros. & Co., O. C. Reynolds 1	*	....

KENTUCKY

Allen County—		
Morrow, Stinson & Co., D. B. Corbitt 5	*	450
Steubenrach & Co., E. D. Morehead 5	*	267
Estill County—		
Wood Oil Co., William Neal 11	12	....
Reno Oil Co., M. Ballard 8	10	....
Owensboro Field—		
Butte Dredging Co., A. Evans 3	25	....
C. A. Leeper, H. D. Brown 5	5	....
Rex-Pyramid Oil Co., Jesse Ambrose 1	10	....
Lee-Owsley Counties—		
Petroleum Exploration Co., J. B. Scott 1	¶2¼	....
Morgan County—		
Petroleum Exploration Co., Craney Creek Structure 1	*	....
Floyd-Knott Counties—		
Ivyton Oil & Gas Co., Andy Coburn 1	4	....
Lawrence-Johnson Counties——		
Swiss Oil Corp., J. M. Fyffe 22	5	....
R. N. Sparks 10	4	....
Greenup County—		
Petroleum Exploration Co., J. H. Flannery 1	¶2½	....
Barren County—		
Fred C. Moore, Howard 12	3	....
Travis 14	8	....
Esslinger Oil Co., C. B. Jones 11	20	....
C. B. Jones 12	20	....
C. B. Jones 13	30	....
Baird & DeCaigney, Derr 2	15	....
Sonson, Warner & Co., Kinslow 1	*	220
Star Oil & Gas Co., Richardson 11	10	....
R. B. Tyler Co., White 9	5	....
White 10	10	....
T. L. Gorby, Lessenberry 3	3	....
W. E. Steffey 8	*	....
Wood Oil Co., Redman 7	5	....
R. A. Stohr, McGuire 1	4	510
Consolidated Gas Co., H. W. Duff 40	12	481
L. W. Preston, Pace 1	3	614

SOUTHEASTERN OHIO

Morgan County—		
The Sun Co., Wilson Kirkwood 2	5	....

CENTRAL OHIO

Licking County—		
F. M. Rugg & Co., Clint McKinney 10	30	....
Edward H. Everett Co., T. H. Walcutt 2	5	....
Ohio Fuel Supply Co., O. Hansberger 5	20	....
Ellen E. Forry 8	2	....
Ellen E. Forry 9	*	....
Moore & Adams, P. L. & M. E. Wolfe 4	2	....
Guernsey County—		
Ohio Fuel Gas Co., W. L. Ford 1	¶11	....
J. N. Mehaffey 1	¶10	....
Holmes County—		
East Ohio Gas Co., J. R. Hastings 2	125	....
Christian Miller 1	*	....
Empire Gas & Fuel Co., Jesse P. Close 3	80	....
Ohio Fuel Gas Co., John Shanklin 1	¶1½	....
Hocking County—		
Kachelmacher Estate, George Hutson 1	*	2911
Calico Ridge Oil & Gas Co., Edward Funk 1	*	....
Vensel, Cline & Co., R. Thrush 2	15	....
Preston Oil Co., George F. Wyskiver 2	15	....
Athens County—		
Cook & Co., E. R. Walker 1	1	....
L. Cordray 1	*	....
Sherman & Co., C. S. Moore 1	*	....
Logan Gas Co., Isaac Bail 1	*	....
Vinton County—		
Stanley Oil Co., J. W. Stanley 1	5	....
Cameron & Co., C. E. Clark 1	¶½	....
Knox County—		
R. B. Decker & Co., I. Burkholder 1	2	....
Arkansas Fuel Oil Co., J. R. Hardesty 5	10	....
Ashland County—		
Logan Gas Co., Lee Burkhart 1	¶3½	....
Hattie Tedrow 1	¶¼	....
Medina County—		
Ohio Fuel Gas Co., D. J. Hitchcock 1	¶1	....
Wayne County—		
Arco Oil Co., E. A. Ginter 1	¶½	....
Perry County—		
Chartiers Oil Co., Robert Wolfe 3	1	....
Lorain County—		
Ohio Fuel Gas Co., Robert Squires 1	*	....

NORTHWESTERN OHIO

Wood County—		
Oko Oil & Gas Co., George DeVerna 7	100	1291
J. Heilman 4	5	1285
Schulte, Lantz & Co., Michaelson 3	1	1308
Hancock County—		
Ridge Gas & Oil Synd., C. Chambers 3	140	1457
Keiser Oil Co., J. Ernst 2	5	1407
R. T. Rittenhouse, Frank Freed 5	10	1390
J. T. Montgomery, W. H. Fountain 24	20	1404
Lucas County—		
Ohio Oil Co., Gertrude Niles 44	20	1455
Waterville Oil & Gas Co., George Ward 8	1	1265
Ottawa County—		
Ohio Oil Co., A. F. Alynn 3	12	1386
Gladieux & Harman, Nissen 2	8	1360
Mercer County—		
Ohio Oil Co., E. Snaveley 8	10	1192
D. A. Miller & Co., Hacker Heirs 5	10	1144
Auglaize County—		
Rock Oil Co., C. Enneking 2	30	1287
Hardin County—		
Roundhead Oil & Gas Co., E. McArthur 6	15	1488
Darke County—		
Cole Oil & Gas Co., J. A. Snyder 6	2	1278

INDIANA

Daviess County—		
Otto Geiger & Co., J. W. Backus 1	*	1700
Neal & Co., D. R. Morgan 1	*	1690

ILLINOIS

Wabash County—		
W. C. McBride Inc., J. H. Cisil 5	6	1163
J. W. Whiteside & Co., C. E. Courter 3	*	1509
Jos. S. Young & Co., John Goodhart 1	*	1590
W. M. Bell & Co., Robert Yelton 1	*	....
Crawford County—		
L. C. McDowell & Co., Olive Lawrence 5	16	892
McNally & Starr, A. E. Joseph 6	1	875
Mahutska Oil Co., Phillip Miller 13	*	....

MICHIGAN

Saginaw County—		
Saginaw Prospecting Co., Fred Remer 1	35	1831
Valley Oil & Gas Co., Charles Priess 1	35	1827
Myron E. Lee & Co., J. C. Brechtelbauer 1	25	1833

WILDCATS FROM ALL SECTIONS

Northern California Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Gould Hills—		
Hastain-Purman's 1-29-20	*	2185

DRILLING REPORT

KERN COUNTY

ANTELOPE PLAINS—W. H. Davis' No. 1, dr 350 ft. Union Oil Co.'s No. 2, dr 2040 ft.

BUTTONWILLOW — Milham Exploration Co.'s No. 1, rigging.

DEVILS DEN—Devils Den Prod. Co.'s No. 4, will plug 833 ft. Marathon Oil Co.'s No. 1, cas 4390 ft. Robins Oil Co.'s No. 1, dr 1867 ft.

FAMOSA—Union Oil Co.'s Gill 1, bldg rig. Woodward-Sheedy's G. P. 1, rigged.

GOULD HILLS—Mendocino-Midway's No. 1, dr 1845 ft. Myrtle F Oil Co.'s No. 1, repairing rig 900 ft. L. E. Westrich's No. 1, rigging.

TEMBLOR HILLS—Fortuna Oil Co.'s No. 1, sd 2070 ft. Hovey Hills Oil Co.'s No. 1, sd 2510 ft.

WASCO—Main Oil Co.'s No. 1, ready to set packer 3450 ft; No. 2, re-dr 5276 ft.

EASTERN KERN CO.—Crusaders Oil Co.'s No. 1, dr 2251 ft; No. 1, installing rotary 670 ft.

ELK HILLS—Interstate Oil Corp.'s No. 1, sd 5156 ft. Naval Reserve Co.'s No. 1, sd 3676 ft.

McKITTRICK—Lacy-Esper Pet. Co.'s No. 1, sd 3275 ft. Ridge Oil Co.'s No. 1, cmt 3075 ft.

SUNSET—General Pet. Corp.'s Bell-Wrightsman, dr 5335 ft. Fresno-Sunmaid Oil Co.'s No. 1, sd 4200 ft. Frank Gore's No. 1, sd 2100 ft.

FRESNO—Shell Co.'s San Emigdio 1, dr 4371 ft. Fresno-Madera Oil Co.'s No. 1, sd 3760 ft. W. W. Taylor's No. 1, dr 1246 ft. Associated Oil Co.'s No. 2, dr 1000 ft.

KINGS COUNTY—Bolsa Chica Oil Co.'s Kettleman Hills, dr 2360 ft. Marland Oil Co.'s Elliott, milling 5170 ft. South Coalinga's No. 1, dr 1378 ft.

VENTURA COUNTY

CAMARILLO—Standard Oil Co.'s Camarillo 1, dr 2515 ft.

CASITAS-OJAI—Miley Exploration Co.'s Casitas 2, fsh 601 ft. Rio Grande Oil Co.'s Canet 1, dr 1735 ft.

MOORPARK—Shell Co.'s Berlywood 1, dr 6260 ft.

PIRU—Henderson Pet. Corp.'s Z27, dr 755 ft. Bishop-Buckeye's No. 1, dr 1089 ft. Hopper Canyon Oil Co.'s No. 1, sd 5000 ft. Oil Exploration Co.'s James 1, rig. Havenstrite-Baker's well, will drill.

WHEELER CANYON—Wheeler Canyon Oil Co.'s No. 16, cement 5420 ft.

SESPE-FILLMORE—Gillette-Howard's Elkins 1, re-dr 4043 ft. Sepse Oil Co.'s Smith 2, sd 4003 ft.

VENTURA—Associated Oil Co.'s McGonigle 2, dr 5315 ft. V. L. & W. Co.'s 1, sdtr. Chanslor-Canfield-Midway's Hobson 1, fsh 5855 ft. Milham Exploration Co.'s Sexton 1, sd 6017 ft.

SANTA BARBARA CO. — Summerland Oil Co.'s Becker 1, waiting on cas 2435 ft. West Penn Prod. Co.'s Shields 1, fsh 617 ft. Standard Oil Co.'s Palmer Union, dr 2845 ft.

SAN LUIS OBISPO CO.—Arroyo Grande Pet. Co.'s No. 1, dr 3915 ft. Barneyberg Oil Co.'s No. 1, co 4486 ft. Geo. Mapes Inc.'s No. 1, rigging 500 ft. Walklin Pet. Co.'s No. 1, sd, cmt, 2409 ft.

MONTEREY COUNTY — Henigan-Schwenigan's No. 1, dr 3310 ft. Harriman-Jones' No. 1, sd 4610 ft. Pan-American's No. 1, dr 2492 ft. Pyramid Oil Prod.'s No. 1, fsh 2760 ft.

TULARE COUNTY—Ducor Drilling Co.'s No. 1, sd, cmt, 4161 ft. Federal Exploration Co.'s No. 1, dr 2168 ft. Josephine E. Neame's No. 1, dr 1960 ft. Ozena Oil Co.'s No. 1, dr 100 ft.

YOLO COUNTY—San Martinez Oil Co.'s No. 1, dr 6203 ft.

SONOMA COUNTY—Shell Co. of Calif.'s No. 1, fsh 2549 ft.

COLOUSA COUNTY—Brown-Cockrill's No. 1, dr 721 ft. Continental Oil Co.'s No. 1, dr 3740 ft. Prize Oil & Gas Co.'s No. 1, sd 900 ft.

Southern California Wildcats

BANDINI — Pan-American Pet. Co.'s De-Baker 1, rig.

BELLFLOWER—Marine Oil Corp.'s Strong, dr 4710 ft.

BURBANK—B. J. Jeffries' No. 2, sd 1300 ft.

BIXBY HILLS—National Security Co.'s No. 1, sd 5151 ft. Orange County Pet. Co.'s No. 1, sd 2820 ft.

CLEARWATER — Featherstone - Preston's Blinn 1, dr 3800 ft.

CLAREMONT—Claremont Oil & Gas Co.'s No. 1, r 1080 ft.

DOMINGUEZ— Dominguez Extension Oil Co.'s No. 1, rig completed.

EAGLE ROCK—Calwin Oil Co.'s well, dr 6055 ft.

EL SEGUNDO—Union Oil Co.'s Howland 2, dr 5197 ft. Rider Oil Synd.'s No. 1, circulating 1845 ft. Southern California Drilling Co.'s Matteson 1, rigging.

HAWTHORNE—Winwell Oil Co.'s Dome 1, sd 5586 ft.

INGLEWOOD—Associated Oil Co.'s Cypress 1, dr 3580 ft.

IRVINE—Calny Oil Co.'s Irvine 1, sd 4247 ft.

LANCASTER—Rudd-Assmussen's No. 1, dr 1860 ft.

LAWNDALE—Smith Petroleum Co.'s Johnson, dr 3300 ft.

LONG BEACH— Miller-Haley's West Extension 1, dr 4910 ft.

MANHATTAN—Julian Pet. Corp.'s Hellman Trust 1, abn 5741 ft. Manhattan-Pacific's No. 1, testing 4409 ft.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, sd 4452 ft.

NEWHALL-SAUGUS—W. W. Stabler's No. 1, dr 2355 ft. Temple-Lefevre's Castaic 1, sd 2107 ft. Union Oil Co.'s Saugus 1, fsh 3816 ft.

PACOIMA—W. O. Brubaker's Fernando 1, ready to test 2698 ft.

PLAYA DEL REY— Milham Exploration Co.'s P. D. 2, sdtr 6017 ft.

PUENTE—Barnsdall Oil Co.'s Merlo 1, dr 4500 ft.

RESEDA—Petroleum Securities' Sesnon 1, dr 3690 ft.

SPADRA—Spadra Oil Co.'s Northey 1, cmt 461 ft.

SAN FERNANDO—Standard Oil Co.'s University 1, dr 3925 ft.

SAN JOSE HILLS—Bardeen Oil Co.'s Didier 3, sd 1938 ft. D. & B. Oil Co.'s Amar 1, dr 2920 ft.

SAN JUAN CAPISTRANO—A. P. & K. Synd.'s No. 1, pulling pipe 2135 ft. Cal. Pet. Developing Co.'s No. 1, dr 2100 ft.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. M. 1, sd 3849 ft.

TOPANGO CANYON—Standard Oil Co.'s No. 1, co 1550 ft.

VAN NUYS — Van Nuys Community Oil Co.'s No. 1, co 3701 ft.

RIVERSIDE CO.—Banning Oil Co.'s No. 1, sd 974 ft. Corona Oil & Gas Co.'s Test 1, rigging 1070 ft. Spindletop Oil Synd.'s No. 1, dr 2610 ft. Trabuco Oil Co.'s No. 1, dr 1550 ft.

SAN DIEGO CO.—Cardiff Oil Corp.'s Turner 1, dr 600 ft. Oceanside Oil Well Co.'s No. 1, preparing to re-dr 3126 ft.

SAN BERNARDINO CO.—Arrowhead Dev. Co.'s No. 1, dr 1530 ft. Burgess-Goodale's Riggins 1, sd 4110 ft. Como Oil Co.'s Cajon 1, sd cmt 1380 ft. Colton Terrace Oil Co.'s No. 1, dr 1103 ft. Dome of Chino Valley's well, co. Del Rosa Oil Co.'s well, re-financing 2460 ft. Hesperia Oil & Gas Co.'s No. 1-A, dr 3246 ft. Mahala Oil & Gas Co.'s No. 2, co 5080 ft. Rimer Oil Co.'s Tebo 1, co 723 ft; Smith 1, sd 140 ft; McDermott 1, dr 200 ft. Wade-Aldhal-Bourne's Shoe 1, cas 600 ft. Western Pacific Oil Co.'s No. 3, sd 920 ft.

Rydal Sells Half Interest To Crown-Central

Laredo, Texas.—One of the largest deals of the year was closed in Laredo when the Rydal Oil Corporation sold half interest of its properties in Laredo to the Crown-Central Company for a consideration of approximately $400,000. The transaction included half interest in 1003 acres with a daily average production of 1100 barrels in the Mirando district and a 40-acre lease in the Breckenridge pool with a daily output of 35 barrels.

The main property of the Rydal in the Mirando district is located in the Edgington field of Webb County and the majority of it lies in the Bruni tract of the Albercas grant.

The Rydal interests have been operating in the fields around here for the past four years, entering this district when it took over the main interests in several producing wells in the Schott pool, two drilling wells in wildcat territory.

Through the Trinity Drillers, this company acquired acreage in the southeast part of the Edgington field about two years ago and began development that resulted in the extension of the field and immediately took over leases in the Bruni part of the Albercas grant joining its leases on the east and south, which further extended the field.

Messrs. Carter and Rubsamen have been leaders in the affairs of the Rydal and they are now moving the company's operations to the district south of the Henne, Winch and Farris field in Jim Hogg County. The company also is operating in the Zapata County wildcat area.

East Texas Wildcats

ANDERSON COUNTY—Humble O. & R. Co.'s Southern Pine Lumber Co. 2, dr 1975 ft. Navarro Oil Co. et al's Greenwood 5, sd 1900 ft.

ANGELINA COUNTY—Flannigan Drilling Co.'s Mantooth 1, sd 725 ft. Humble O. & R. Co.'s Henderson 1, dr 1700 ft. Van Hatcher et al's Kountz 1, sd 1535 ft.

BELL COUNTY—R. R. (Rob) Penn et al's Hardy-Peck 2, rig.

CHEROKEE COUNTY—Humphreys Corp.'s Bowling 1, dr 3970 ft. Humble O. & R. Co.'s A. Templeton 1, dr 2520 ft. Magnolia Pet. Co.'s J. L. Sumners 1, cemented cas 2383 ft. Nicolle & Wife's Hill 1, dr 2040 ft. R. E. Smith et al's Ray Lewis 1, sd 1010 ft.

ELLIS COUNTY — Magnolia Petroleum Co.'s R. W. Getzendaner 1, fsh 2940 ft.

FALLS COUNTY—Forbes et al's W. D. Keyser 1, elevation 343 ft, Austin chalk at 1745-1960 ft, bailing sandy-lime pay 2225-31 ft.

KAUFMAN COUNTY—Atlantic Oil Prod. Co. and Hill's Haynie 1, E. Higdon survey, dr 1820 ft.

LIMESTONE COUNTY — Evangeline Oil Co.'s Sweatt-Bass 1, Austin chalk at 2287-2600 ft, dr 2790 ft. C. W. Harrison & Pandem Oil Corp.'s Bassett 1, near Kosse, changing to ro-

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tary 445 ft. Humble O. & R. Co.'s Gunter 1, near Streetman, top chalk 2521 ft, dr 2600 ft. Kosse Oil Synd.'s Fenner 1, top chalk 2674 ft, standardizing 2905 ft; Jones 1, near Kosse, lcn. Bob Penn & Navarro Oil Co.'s Peoples 1, near Tehuacana, elevation 624 ft, Austin chalk at 2224-2596 ft, cored shale and broken sand 2908-18 ft. W. K. Clayton et al's Joe Thornton 1, lcn. Killiam & Phillips et al's O. Montgomery 1, A. G. McAdoo survey, dr 1520 ft. Schaeffer et al's D. Oliver 1, spd.

McLENNAN COUNTY— Castleman Creek Oil Co.'s Schaerhaer 1, dr 730 ft. Pecan Gap Oil Co.'s Punchard 1, Austin chalk at 879-1108 ft, dr 1525 ft.

MILAM COUNTY—Alexander-Lyles et al's Batte 1, top chalk 2092 ft, dr chalk 2530 ft. The Texas Co.'s Kuykendall 2, top chalk 1857 ft, dr 2725 ft.

NAVARRO COUNTY—C. E. Dixon et al's W. L. Garrett 2, lcn. Pierce et al's W. Pierce 1, fsh 3045 ft. Sun Oil Co.'s H. A. Swink 3-A, Austin chalk at 2440-2880 ft, dr 3210 ft. W. W. Stanley et al's M. E. Cox 1, lcn.

SABINE COUNTY—Humble O. & R. Co.'s Temple Lumber Co. 1, dr 1300 ft. Sebastian & Smith's Lewis Werner 1, cemented cas 1685 ft.

TRINITY COUNTY—Mills Bennett et al's Conn 1, Lucas Munos sur, lcn.

Texas Panhandle District

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Hutchinson County—		
Permian Oil So.'s W. R. Harvey 1..	*	3280

DRILLING REPORT

ARMSTRONG COUNTY—Red Hill Oil Corp.'s Puckett Bros. 1, dr 610 ft.

CARSON COUNTY—Amatex Dev. Co.'s E. S. Polling 1, sd 1980 ft. Gibson Oil Corp. et al's G. W. Witter 1, dr 1355 ft. Humble O. & R. Co.'s Burnett 1-A, dr 755 ft; Burnett 1-B, dr 810 ft. Navajo Oil Co.'s E. S. Polling 1, rig. Nunn & McAuley et al's E. F. Ryan 1, rig. Prairie O. & G. Co.'s Deahl 1, dr 2415 ft. Republic Prod. Co.'s C. R. Garner 1, top lime 2140 ft, dr 2310 ft. Roxana Pet. Corp.'s E. F. Bryan 1, flowing 30 bbls. per hr, 3174-78 ft; Bryan 2, lcn. White Deer Oil Co.'s Jordan-Brown 1, fsh tools 2860 ft. McMan O. & G. Co.'s E. F. Bryan 1, dk. J. T. Parks et al's Bryan 1, dk.

CHILDRESS COUNTY—Gibson Oil Corp. et al's Smith 1, co 2505 ft.

COCHRAN COUNTY—J. C. Whicker et al's Landon 1, rig.

COLLINGSWORTH COUNTY—Allmen et al's McDowell 1, rig. Gibson Oil Corp. et al's Williams 1, set 8¼-inch cas 1500 ft. Martin et al's Mrs. T. V. Norwood 1, spd and sd. Harmon & Reams et al's Wilson-Scott 1, lcn.

DALLAM COUNTY—James et al's Fee 1, dr 2875 ft.

DONLEY COUNTY—A. T. Drilling Co.'s F. E. Harrington 1, sd 180 ft.

GRAY COUNTY—Blackwell-McGee et al's Bowers 1, cas trouble, 335 ft. Canyon Oil Co.'s Jackson 1-A, skidding rig. J. Constantine et al's W. F. Dial 1 ,sd 2000 ft. Cranfill Bros. Oil Co.'s T. B. Noble 1, top lime 1745 ft, dr 1750 ft. Eagle Creek Oil Co.'s Hopkins 1, sp and sd. H. B. Eller et al's J. E. Crews 1, dk. Jack Greenwood et al's H. B. Lovett 1, dr 625 ft. Magdelline Oil Co.'s J. E. Williams 1, sp and sd. Nabob Oil Co.'s J. S. Morse 1, fsh 1915 ft. Pampa Oil Co.'s W. R. Campbell 1, dr 415 ft. Pampa Pet. Co.'s Furneaux Bros. 1, rig. Henry Riley et al's J. M. White 1, rig. Roxana Pet. Corp.'s B. E. Finley 1, dr 760 ft. Travis et al's J. Back 1, rig. Upham Gas Co.'s W. E. Grammage 1, lcn. Weir-Kribs & Finklea's B. F. Talley 1, sp and sd. Vaughan A. J. Dauer 1, dk.

HANSFORD COUNTY—F. W. Dillard et al's F. A. Davis 1, sp and sd. Oklavania Oil Co.'s Whitson 1, dr 805 ft.

HARTLEY COUNTY—Deep Rock Oil Co.'s Lyman-Balfour 1, dr 1565 ft. Dorning et al's A. G. Ashby 1, lcn. Eslick et al's A. G. Irving 1, dr 1210 ft. W. H. Holmes et al's C. B. Coots 1, sp. Humble O. & R. Co.'s J. M. Shelton 1, sd 1055 ft. J. B. McKenna et al's E. S. Collings 1, rig; Francis Farewell 1, rig; J. M. Shelton 1, sd 990 ft. Kork Oil Co.'s J. M. Shelton 1, sp and sd. Breck Walker et al's Stone 1, lcn.

HEMPHILL COUNTY—Andrade et al's Humboldt 1, lcn. Dorning et al's Alexander 1, sp and sd. Hoover et al's Fee 1, fsh 510 ft; Shaller Estate 1, sp and sd. McCockrell et al's Shaller Estate 1, rig. Mitchell et al's J. E. George 1, pulled in rig, td 900 ft.

HOCKLEY COUNTY—El Capitan Oil Co.'s Ellwood 1, dr 1010 ft.

HUTCHINSON COUNTY—Lee Flowers & Marland Oil Co.'s Carver 1, fsh 1195 ft. Get Oil Co.'s W. P. Allen 1, sp and sd. Gibson Oil Corp.'s McCormick 1, sd 3166 ft. Bozo Oil Co.'s Haile 1, rig. Burge et al's W. R. Harvey 1, lcn. Clark-Hagey et al's Wm. Yake 1, sd 1700 ft. Dominion Oil Co.'s C. H. Jasper 1, sp. Donald et al's W. B. Haile 1, rig. Flanders Oil Co.'s W. R. Harvey 1, rig. Golden Eagle Oil Co.'s J. Q. Bost 1, rig. Gopher Oil Co.'s Tom Lewis 1, dr. Harvey Oil Co.'s W. R. Harvey 1, dr 2980 ft. Matheson & Dunn et al's E. B. Jones 1, sd 350 ft. Panfield Oil Co.'s Luginbyhle 1, dr 405 ft. Permian Oil Co.'s W. R. Harvey 1, dry, 3280 ft. Pole Cat Oil Co.'s W. B. Haile 1, rig. Premier Oil Co.'s E. B. Jones 1, rig. Rock Island Oil Co.'s W. A. Starnes 1, rig. Sun Rise Oil Co.'s Wm. Lyal 1, sd 2660 ft. Western Oil & Dev. Co.'s O. W. Jarvis 1, fsh 3030 ft.

LAMB COUNTY—E. C. Marrs et al's Yellowhouse 1, dr, 1710 ft.

LIPSCOMB COUNTY—Everett et al's Mrs. H. D. May 1, rig. McCorkle et al's H. O. Perry 1, abn lcn. Snyder et al's A. Barton 1, dr 2705 ft.

MOORE COUNTY—Amarillo Oil Co.'s Masterson 1-J, dr 1370 ft; Terry Thompson 2, sd 1410 ft. Merle Cadman et al's Sneed 1, sd 1850 ft. Clark-Harbin & Baldridge et al's O. E. Gober 1, dr 415 ft. Douglas Oil Co.'s H. F. Beauchamp 1, dr 705 ft. Lee Flowers et al's Sneed 1, sd 2055 ft. Humble O. & R. Co.'s Kilgore 1, sd 270 ft. Masters Oil Co.'s Sneed 1, dr 400 ft. Moore County Oil Co.'s Sneed 1, fsh 1010 ft. Morton & Co.'s H. C. Rubert 1, dr 460 ft. Phillips Pet. Co.'s Sneed 1, sd 3095 ft. Prairie O. & G. Co.'s Sneed 2, dr 2475 ft. Shadler Bros. et al's John Lowery 1, rig.

OCHILTREE COUNTY—W. G. Burton et al's Strickler 1, sd 2500 ft. Hamilton et al's R. E. Wamble 1, sd 250 ft. McCorkle Pipe Line Co.'s R. H. Moore 1, dr 1575 ft. Standard Dev. Co.'s Bowen 1, sd 900 ft.

POTTER COUNTY—Amarillo Oil Co.'s Bivins 5-A, dr 1750 ft; Fuqua 1, rig. The California Co.'s G. A. Carey 1, lcn. Farmers O. & G. Co.'s J. A. Jones 1, rig. Gulf Prod. Co.'s W. H. Bush 1, swedging cas 3005 ft. Kelly & Harris et al's Bush 1, lcn.

ROBERTS COUNTY—Gibson Oil Corp. et al's T. S. Jones 1-A, skidding rig. Chas. Page et al's Hamilton 1, set 12½-inch cas 482 ft. Murphy et al's A. W. Gill 1, sp and sd. Pan-State Oil Co.'s A. H. Tandy 1, rig. Pettijohn et al's J. A. Meade 1, sp and sd. Trammel et al's A. G. Hammond 1, sp and sd.

SHERMAN COUNTY—Eclipse Oil Co.'s Bivins 1, rig. Get Oil Co.'s Bivins 1, sd 210 ft. Phillips Pet. Co. & Savoy Oil Co.'s G. Roach 1, dr 1065 ft.

SWISHER COUNTY—Overson & Keagans' L. H. Woodward 1, sd 840 ft.

WHEELER COUNTY—American Ref. Co.'s E. E. Carlton 1, lcn. Boyles-Johnson et al's S. L. Lewis 1, rig. Gibson Oil Corp. et al's W. E. Bentley 1, sd, making 9 million ft. gas 2264 ft; H. C. Phillips 2, rig; H. C. Phillips 4, sd 210 ft. Hill-Cook & Riley's L. H. Webb 1, dr 175 ft. Laycock et al's Fee 1, dr 1520 ft. Mid-Kansas O. & G. Co.'s W. C. Company 1, sd for storage flowing 50 bbls. daily, 2195-2275 ft. Murchison-Fain Oil Co.'s Binkley & Cain 1, testing pay 2163 ft; Binkley & Cain 1-A, lcn; J. C. Rook et al's T. C. Jones 1, dr 1310 ft. Scott-Allen & Bledsoe's J. H. Jackson 1, dr 110 ft. Smith et al's W. J. Johnson 1, rig. Smith-Brady et al's P. J. Sornson 1, sd 312 ft. The Texas Co.'s Smith-Lewis 1, dr 200 ft. Upham Gas Co.'s Alexander 1, rig; Cody 1, sd 260 ft; Griswold 1, rig; Martin 1, sp and sd Hal Vaughan et al's O'Gorman 2, dr 510 ft. E. L. Woodley et al's Woodley 1, dr 1465 ft. World Oil Co.'s Jackson 1, rig.

West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Crane County—		
Gulf Prod. Co.'s University 1.....	†	535
Crockett County—		
The California Co.'s University 2..	*	2728
Humble & Marland Oil Co.'s Powell 8-A	45	2679
Powell 10	50	2685
Howard County—		
Joe Edgar et al's Roberts 1.....	*	1800
Marland Oil Co.'s Otis Chalk 2....	95	1637
Magnolia Pet. Co.'s Otis Chalk 2..	50	1612
Jones County—		
Phillips Pet. Co.'s Joe Winters 1...1000		2517

DRILLING REPORT

ANDREWS COUNTY—Amon G. Carter & Zweifel's Cowden 1, materials. Maer-Staniforth et al's W. S. Taylor 1, lcn. Henry Zweifel et al's Means 1, lcn.

BREWSTER COUNTY— John Roseborough et al's Skinner 1, fsh cas 1055 ft.

COKE COUNTY—Lipan Oil Co.'s E. C. Rawlings 1, dr by tools 2640 ft.

CONCHO COUNTY—Culbertson Bros. & Co.'s W. G. See 1, ur 8¼-inch cas 800 ft. K. Kimberlin et al's W. O. Schultz 1, fsh 1520 ft. The Exploration Co.'s Hartgrove 1, sd 450 ft. Eugene Mays et al's Wilson-Hartgrove 1, sd 895 ft.

CRANE COUNTY—Cranfill Bros. Oil Co.'s P. J. Lea 1, elevation 2588 ft, top salt 1075 ft, dr 3200 ft. Duffey Bros. et al's Cowden 1, rig. Bill Dunning et al's Crier-McElroy 1, elevation 2582 ft, top salt 958 ft, fsh 1900 ft. Gulf Prod. Co.'s University 1, skid rig 535 ft; J. T. McElroy 2, top salt 975 ft, fsh tools 2165 ft; Crier-McElroy 1, sd for storage 2675 ft; Crier-McElroy 2, sd for storage 2670 ft; Crier-McElroy 3, sd for storage 2691 ft. Independent Oil & Gas Co.'s Hughes 1, top salt 635 ft, dr 1330 ft. Magnolia Pet. Co.'s University-Lassiter 1, rig; University-O'Keefe 2, rig; University 1-A, lcn. Magnolia Pet. Co. et al's Church-University 2, top salt 1165 ft, top big lime 2937 ft, dr 2980 ft; Church-University 3, lcn. Marland Oil Co.'s Mary Dawson 1, rig; Hughes-Gibbs 1, testing oil pay 2308-35 ft, td 2345 ft; Hughes 2-C, dr 2210 ft; Hughes 3-C, top salt 640 ft, dr 680 ft; Hughes 1-D, dr 2255 ft; Gibbs 1, dr 1899 ft. Prairie Oil & Gas Co.'s University 1 and 2, rigs. The Texas Co.'s Union 1-F, pumping 20 barrels oil and 40 barrels water 3014-16 ft; H. M. King 2, swabbed 125 barrel oil after shot 60 quarts at 2302-17 ft, td 2353 ft; King 5, lcn; King 6, dr 1940 ft; King 7, top salt 645 ft, dr 1345 ft. Tidal Oil Co. et al's University 2, dk; University 3, lcn. Henry Zweifel et al's Cowden 1, lcn.

CROCKETT COUNTY—Cumberland O. & G. Co. et al's Couch 1, dr 1755 ft. Gulf Prod. Co.'s Powell 1-D, dr 1030 ft. J. K. Hughes Dev. Co.'s Powell 2-A, dr 330 ft; Powell 3-A, dr 1925 ft; Powell 2-B, ur 12½-inch cas 735 ft. Humble & Marland Oil Co.'s Powell 11, lcn; Powell 1-B, dr 300 ft. Magnolia Pet. Co.'s Shannon 2, dk. Marland & J. Wallace's J. S. Pierce 1, lcn. Republic Prod. Co.'s Powell 1, top salt 1125 ft, dr 1415 ft. Wm. Schaffer et al's University 1, sd 2191 ft. Simon et al's Shannon 1, set 5 3/16-inch cas 2600 ft. J. D. Young et al's Robt. Massie 1, dr 2170 ft. Young & Carl Cromwell's Shannon 1, spd. F. P. Zoch & Marland Oil Co.'s University 1, sd 2005 ft. H. F. Wilcox O. & G. Co.'s University 1, dr 3075 ft.

CULBERSON COUNTY—Big Lake Oil Co. et al's C. L. Cass 1, spd and sd. James H. Gardner et al's Radford et al 1, rig.

JEFF DAVIS COUNTY—Herbert Oil Co.'s T. M. Wingo 1, sd 3012 ft. Humble O. & R. Co.'s McCutcheon 1, dr 2965 ft. J. K. Hughes Dev. Co.'s J. Z. Means 1, sd 330 ft; Means 2, lcn.

ECTOR COUNTY — J. S. Cosden et al's Connell 1-A, elevation 2847 ft, top salt 875 ft, dr 3175 ft; Connell 1-B, elevation 2827 ft, top salt 1000 ft, top big lime 3390 ft, sd 3720 ft. The Exploration Co.'s TP Fee 1, top salt 1528 ft, fsh 3550 ft; J. D. Slator 1, dk. Llano Oil Co. et al's Cowden 1, top salt 1130 ft, set 8¼ cas 2700 ft. Simms Oil Co.'s W. P. Edwards 1, elevation 2844 ft, top salt 1600 ft, dr 2780 ft. F. E. Skinner & Eastland Oil Co.'s J. W.

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Buchanan 1, sd 3523 ft. Leigh Taliaferro et al's Henderson 1, ur 10-inch cas 1280 ft.

FISHER COUNTY—Ideal Oil Co.'s W. F. Martin 1, sd 3120 ft. R. W. Rainey et al's J. L. Marberry 1, ur 6¾ cas 1350 ft.

GAINES COUNTY—Hucony Gas Co.'s Lindsey 1, elevation 3080 ft, top salt 2265 ft, sd contract depth 3255 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 1, swabbing 10 barrels oil and lots water after shot, td 2600 ft. Deep Rock Oil Co.'s S. M. Swenson 1, dr 3205 ft.

GLASSCOCK COUNTY—Plateau Oil Co.'s L. S. Bell 1, dr 410 ft.

TOM GREEN COUNTY—M. D. Bryant et al's Llano County Fee 1, trying to run 6¾ cas 2980 ft. Texon Oil & Land Co. & Marland Oil Co.'s Sorrell 1, spd. World Oil Co.'s Pulliam 1, elevation 1864 ft, dr 3265 ft.

HOWARD COUNTY — Joe Edgar et al's Roberts 1, abn 1800 ft. Lockhart & Co. and Carey's Dora Roberts 1, co 655 ft; Otis Chalk 1-A, dr 835 ft; W. T. Scott 1, making two million ft gas 1620 ft. Magnolia Pet. Co.'s Mary Chalk 1, dr 625 ft; Otis Chalk 3, dr 330 ft; Otis Chalk 3-A, sd repair rotary 1359 ft. Marland Oil Co.'s Chalk 3, rotary, dr 950 ft; Chalk 4, rig. Reeves-Apperman et al's H. R. Clay 1, sd 800 ft.

JONES COUNTY—Bateman & Campbell et al's Southard 1, lcn. Gibson-Johnson et al's Mrs. J. V. Wright 1, rig. Gillette & Hickey et al's S. W. King 1, dr 1305 ft; M. E. Young 1, lcn. Marland Oil Co.'s Harris 1, dk; S. R. Cox 1, dr 1845 ft. Mid-West Exploration Co.'s Thornton 1, lcn. Muse-Robertson et al's Manley 1, lcn. Victor H. Martin et al's Culbertson 1, lcn. Phillips Pet. Co.'s Joe Winters 1, flowing 900 barrels oil daily 2508-17 ft; Walling 1, dk. Leigh Taliaferro & Wentz Oil Corp.'s King 1, dr 1140 ft.

KENT COUNTY—The Texas Co.'s Barron 1, set 5 3/16 cas 4331 ft.

KIMBLE COUNTY—Dixie Oil Co.'s Harrison 1, dr 415 ft.

LOVING COUNTY—Lockhart & Co. et al's R. L. Allen 1, top salt 695 ft, dr 2810 ft.

LYNN COUNTY—Hart Oil Corp.'s Edwards 1, dr 1305 ft.

MENARD COUNTY—J. R. Lewis et al's White 1, dr 115 ft. Robinson-Dwyer & Cobb's Wilhelm 1, lcn.

MITCHELL COUNTY—Magnolia Pet. Co.'s Mary Foster 2, dr 955 ft; Foster 3, dk; Foster 4, rig. Mid-Kansas O. & G. Co.'s Ellwood 2, cas trouble 1125 ft. Owen-Sloan Oil Co.'s C. P. Conway 1-A, dr 2485 ft. Teas-Stivers et al's Hardee 1, fsh 485 ft. F. P. Zoch et al's Ford 1, sr 940 ft.

NOLAN COUNTY—Hucony Gas Co.'s Arthur Sears 1, dr 1435 ft.

PECOS COUNTY—Dixie Oil Co.'s Mrs. Hersheusen 1, dr 5280 ft. Benedum-Trees' J. C. Trees 1, dr 205 ft. Buell-Hagan et al's W. W. Batchelor 1, dr 560 ft. Mid-Kansas O. & G. Co.'s I. G. Yates 1, lcn. Transcontinental Oil Co.'s Perry 1, dr 3525 ft. Quinby Oil Co.'s Fort Stockton Townsite 1, sd 3280 ft.

PRESIDIO COUNTY — Hadlock-Miller et al's Tootle 1, sd 2255 ft.

REAGAN COUNTY—H. D. Camp et al's University 1, sd 2786 ft. C. M. Cope et al's L. H. White 1, lcn. Moody Oil Corp.'s Sawyer 1, rig. Texon & Marland Oil Co.'s Sawyer 1, dr by tools 2335 ft. Roxana Pet. Corp.'s Boyd 1, dr 300 ft. Simon et al's R. A. Walters 1, dr 2580 ft. Texon Oil & Land Co.'s University 5, Group 2, dr 880 ft.

REEVES COUNTY—Carl Cromwell et al's TP Fee 1, dr 2460 ft. Deep Rock Oil Co.'s Caldwell 1, lcn. Grisham-Hunter Corp.'s State Fee 1, dr 830 ft. World Oil Co.'s W. N. Holder 1, lcn.

RUNNELS COUNTY—Red Bank Oil Co.'s Fowler 1, spd. F. P. Zoch et al's Bruce 1, spd.

SCHLEICHER COUNTY—Beavers-Leath et al's Whitten 1, spd and sd. Cope-Dalton et al's Sol Meyer 1, dr 1530 ft. S. C. Magee et al's Robinson 1, materials.

SCURRY COUNTY—Northwest Co.'s T. C. Stinson 1, spd and sd; Welborn 1-A, sd 3435 ft.

STERLING COUNTY—Co-Operative Development Co.'s E. W. Douthitt 1-A, sd 3035 ft. The Exploration Co.'s C. A. Broome 1, dr 2305 ft.

STONEWALL COUNTY — Arkansas Fuel Oil Co.'s Craft 1, dr hard lime with rotary 4280 ft.

TAYLOR COUNTY—City of Abilene's Fee 1, dr 310 ft. Sanger O. & R. Co.'s R. H. Anderson 2, dr 1110 ft.

TERRELL COUNTY—Sun Oil Co.'s N. M. Scott 1, dr 865 ft. E. T. Williams et al's Sowden 1, dr by cas 1824 ft.

TERRY COUNTY—Kingsland Oil & Potash Co.'s Brownfield 1, rig.

UPTON COUNTY—W. W. Donnelly & Gerke's Rankin 1, elevation 2535 ft, top lime 3765 ft, showing gas, dr 3840 ft. Gulf Prod. Co.'s Baker 1-B, top salt 599 ft, dr 2160 ft; Sanger 1, dr 3275 ft; Shirk 1-D, top salt 545 ft, top big lime 2122 ft, swabbed 40 barrels oil at 2206-08 ft, dr 2251 ft. Bill Dunning et al's Crier-McElroy 1, elevation 2582 ft, top salt 958 ft, fsh 1900 ft. Hults et al's Giddings 1, lcn. Humble O. & R. Co.'s J. T. McElroy 1, top salt 1560 ft, dr 2855 ft. Sartain Bros. & Davis' Mrs. Bull 1, top salt 1660 ft, sd 1660 ft. Skelly Oil Co.'s O. P. Jones 1, top salt 1761 ft, dr 2180 ft. L. Taliaferro et al's (was Johnson-McCamey) Shirk 1, top salt 695 ft, dr 1260 ft. Texon Oil & Land Co. and Marland Oil Co.'s Halff 1, dr 740 ft.

VAL VERDE COUNTY—A. Blume et al's Moore 1, sd 2410 ft. O. O. Owens et al's Mills 1, steel dk. Independent Operators' Whitehead 1, sd 3340 ft. Plateau Oil Co.'s B. S. Harrison 1, dr 3085 ft. Transcontinental Oil Co.'s Stevenson 1, dr 530 ft. Williams et al's W. T. Holman 1, rig.

WINKLER COUNTY — Brandon-McCamey et al's TP Fee 1, elevation 3367 ft, top salt 1660 ft, set 6¾ cas 3100 ft. McCullough Oil Co.'s Tobe Morton 1, lcn. Ed. S. Hill & Ladd-Simon's Amburgey 1, fsh 632 ft. R. S. Matthews et al's Cowden 1, sd for cas 90 ft. Llano Oil Co.'s Scarborough 1, lcn. L. Taliferro et al's Sealy 1, elevation 2816 ft, top salt 1035 ft, dr 2100 ft. R. A. Westbrook & Co.'s Hendricks 1, pumping 10 barrels oil 2529 ft. F. P. Zoch et al's John Sealy 1, sd 135 ft.

Coastal Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Austin County—		
Valley Oil Co.'s Thompson 1	*	1150

DRILLING REPORT

AUSTIN COUNTY — Valley Oil Co.'s Thompson 1, 30 miles N of Orchard field, abn caved hole 1150 ft; Reese 1, ½ mile N of Thompson 1, dr 800 ft.

BRAZORIA COUNTY—Roxana Pet. Corp.'s Pabst A-1, Clemens Dome, dr 25 ft red clay; Clemens Bernard River 1, Clemens Dome, lcn; Clemens 3, Clemens Dome, dr 2240 ft in sandy shale; Allen Bernard River 1, Allen Dome, bldg dk; Allen 3, Allen Dome, dr 2135 ft in sandy lime.

CHAMBERS COUNTY — Osage Oil Co.'s State 1, 5 miles S of Moss Bluff, spd.

FORT BEND COUNTY—Gulf Prod. Co.'s Davis 15, Long Point, dr 2804 ft in sand rock; Davis 16, Long Point, dr 752 ft in gyp; Davis 17, Long Point, dr 1104 ft in cap rock. The Texas Co.'s Farmer 1, Boling Dome, dr 4035 ft in shale. Sun Co.'s Farmer 1, Boling Dome, dr 1888 ft in sand.

GOLIAD COUNTY—Houston Oil Co.'s Pettus 1, near Goliad, dr 2524 ft in gumbo; Parks 2, near Goliad, bldg dk.

HARRIS COUNTY—Kelley et al's Lipper 1, Aldine, dr 3175 ft in blue gumbo. Gwyn et al's Cage 1, Huffman, sd 1308 ft in gumbo.

JACKSON COUNTY—L. E. Norton et al's Fenner 1, C. O. Fenner 676-acre tract.

JEFFERSON COUNTY—Gulf Prod. Co.'s Bordages 2, Fannette, dr 4920 ft in shale; Thomas 9, Fannette, dr 2785 ft in hard shale. Port Arthur Development Co.'s West 4, near Westbury, dr 757 ft in gumbo. New Beaumont O. Co.'s Garrick 1, 2 miles S of Beaumont, dr 2600 ft in gumbo with heavy steam rig and new dk.

LIBERTY COUNTY—Humble Oil & Ref. Co.'s Welder 3, Liberty extension, dr 2776 ft in gumbo; Welder 4, Liberty extension, dr 2410 ft in gumbo. Gulf Production Co.'s Beckman 1, Liberty extension, dr 2560 ft in gumbo. George Leland's Gorgan Lbr. Co. 2, 14 miles N of Dayton, sd 835 ft in gumbo

MATAGORDA COUNTY—Gulf Prod. Co.'s Parkinson 1, near Hawkinsville, dr 3950 ft in lime.

WHARTON COUNTY — The Texas Co.'s Felder 2, Boling Dome, dr 4000 ft hard sand and pyrites; Rich-Humphreys Malone 1, 5 miles W of Wharton, dr 1761 ft in sand, no show.

San Antonio Wildcats

CALDWELL COUNTY—Bristol O. & G. Co.'s No. 1 Denmon, dr. Reiter-Foster Oil Corp.'s No. 1 Riddle, ur. United North & South Oil Co.'s No. 1 Kelly, dr; No. 1 Tiller, dr.

DUVAL COUNTY—Associated Oil Co.'s No. 1 Sutherland, dr. Barkley-Meadows-Morgan No. 2, King Harper, dr in. Buffum et al's blk 38, Mesquite ranch, dr. Humble Oil Co.'s No. 1 Dowdy, dr, No. 6 Walsh, no report; No. 7 Scallert, dr; No. 7 Walsh, ur. Mag. Pet. Co.'s No. 1 Spear, dr. Maurer & Duggan No. 1 Hoffman, dr. O'Hern-Putman-Seacord No. 2, survey 174, preparing to set cas. Simms Oil Co.'s No. 2 Dinn, sur 666, dr; No. 1 Schallert, waiting for drill stem.

GUADALUPE COUNTY—J. M. Davis' No. 1 Payne, Bond, Shaw, dr; No. 1 Rosenbrook, testing. Wildamn & Blackwell's No. 1 Smith, dr.

MEDINA COUNTY—Alamo Drilling Co.'s No. 1 Kenedy, preparing to take a second core. Armstrong Pat.'s No. 1 Lacey, dr. California-Medina Co.'s No. 1 Rothe, dr. Golden West Oil Co.'s No. 1 Courand,, dr. Kittle & Townley's No. 1 Bendle, dr. Mag. Pet. Co.'s No.'s 1 Mott, dr. Plateau Oil Co.'s No. 1 Johnson, dr; No. 1 Bendle, dr; No. 1 Odem, dr. Rand et al's No. 1, dr. Schemerhorn O. Co.'s No. 1 Jungmann, small well on pump. Witherspoon Oil Co.'s No. 1 Adams, spudded in. Western Gas & Fuel Co.'s No. 1 Adams, dr. Walsh et al's No. 1 Saathoff, dr. Yeager et al's No. 1, dr.

ZAPATA COUNTY—Killam's No. 1, sur 307, dr. Mag. Pet. Co.'s No. 1 Cuellar, dr. Trees Oil Co.'s No. 1 Benavides, standing. Texas Co.'s No. 3 Jennings, dr.

Kansas Wildcats

BARBER COUNTY—Skelly et al's Richardson 1, SWc 30-30-14, ur 4305 ft. Vickers Pet. Co. et al's Ott 1, SWc 30-32-14, sd 4108 ft. R. B. Brown's Martin 1, NWc 14-34-11, sd 1500 ft. Shaffer O. & G. Co.'s Alexander 1, C SE 13-33-13, dr 3000 ft.

BARTON COUNTY—Huffin et al's Smith 1, NE SE NE 17-19-11, sd 5100 ft.

COWLEY COUNTY—Branson et al's White 1, SEc SW SW, 7-30-6, sd 1560 ft.

KINGMAN COUNTY—Phillips Pet. Co.'s Hempell 1, C SE 9-27-6, dr 3800 ft. Harwood & Winters' Lindholm 1, C NE 22-28-5, dr 3791 ft. Crawford & McKenna's Beshere 1, NEc NW 30-28-5, ur 6-inch cas 4000 ft. Marland Oil Co.'s Padgett 1, NEc SW 11-28-6, dr 3175 ft. Fleeger et al's Greenleaf 1, NEc 13-28-7, dr 3700 ft. Cassody Oil Corp.'s Yeoman 1, C SE 35-28-7, dr 3990 ft. Phillips Pet. Co.'s McKenna 1, C NW 16-28-6, dr 4050 ft. Ozark Drilling Co.'s Richards 1, SEc NE SW 4-30-8, pulling pipe 4252 ft. Vickers & Stearns' Keimig 1, C NW 35-30-9, dr 3374 ft.

LYON COUNTY—Culp et al's No. 1, SWc SE 25-19-10, rig. Gashe & Balliere's Stratton 1, SEc NW 32-20-13, lcn.

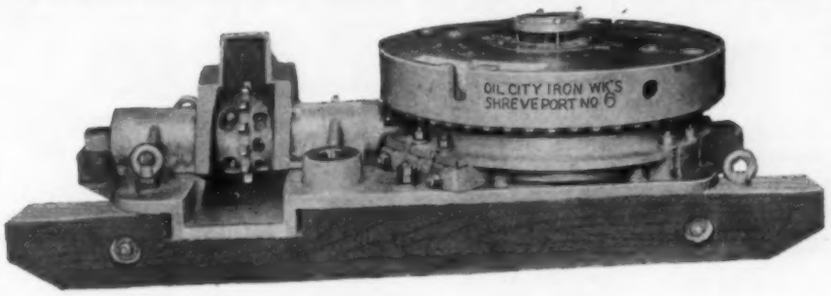
RENO COUNTY—Sheldon et al's Manguson 1, SEc NW 10-23-4, dr 2735 ft. Marland Oil Co.'s O'Neil 1, C SW 7-23-6, cellar. Fleeger et al's Neeley 1, SEc NW 35-23-7, dr 2000 ft. Miss. Valley Oil Co.'s Pexroad 1, SEc NW 36-24-7n, fsh 3703 ft. Cassody Oil Co.'s High 1, C SE 9-25-7, dr 3510 ft. Frank Hopper's Stevens 1, NWc 7-26-7, fsh 4294 ft.

RUSSELL COUNTY—Keys Pet. Co.'s Sloan 1, C SE SW SE 2-13-15, dr 1000 ft. Wilcox Russell's Wilson 1, SE SW 14-12-13, dr 405 ft.

SUMNER COUNTY—Stalling et al's Rice 1, C NE NE NW 3-32-2, dr 3175 ft.

SEWARD COUNTY—Wilson et al's Son 1, C NE NE NE 14-33-33, dr 600 ft.

Two O. C. I. W. Products



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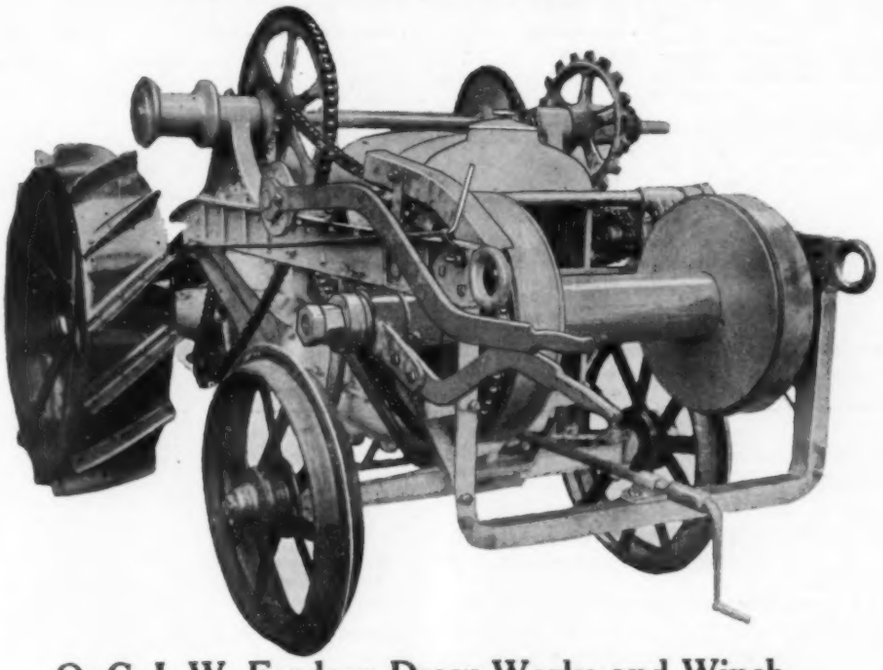

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Shreveport, Louisiana

Oklahoma Wildcats

BECKHAM COUNTY—Magnolia's No. 1, NEc 21-9-23, lcn; No. 1, NEc SE NE NW 22-9-23, dr 130 ft.

BLAINE COUNTY—Okama Oil Co.'s Eklemeir 1, SWc 21-25-10, sd 2610 ft.

CADDO COUNTY—W. J. Hartley's Calbreath 1, SEc NW SE 29-5-12, dr 3110 ft. Abernathy's No. 1, C NE NW 8-5-11, lcn; No. 1, C SW NW 23-5-11, dr 280 ft.

CANADIAN COUNTY—Hannum, Frank & Slick's Pazoureck 1, SW NE 29-13-5, cementing 8-inch cas 3741 ft.

CLEVELAND COUNTY—Schermerhorn et al's Carlock 1, NW NW 2-6-1.

CIMMARRON COUNTY — Ramsey Bros.' No. 1, C NW NE 27-5-5, dr 1532 ft. Fenton, Brookins et al's Smaltz 1, SEc NE NE 2-2-9, spd.

COTTON COUNTY—J. A. Heacock et al's John 1, NWc NE 21-1-10, sd 2427 ft.

COMANCHE COUNTY—Cherry & Couch's Ritchie 1, NWc SW 19-2-9, sd 1882 ft. Mid-Kansas O. & G. Co.'s Cox 1, NEc SE NE 30-1-13, rep rig 1920 ft.

GARFIELD COUNTY — Wilcox O. & G. Co.'s Zalondek 1, C SE SE SE 22-24-8, dr 4449 ft. Sinclair's Meyers 1, C SE NE 11-24-4, dr 3178 ft. Shaffer & Amerada's Bunker 1, NEc 32-24-4, dr 4515 ft. Haley, Garber & Pulse's Chevekier 1, NEc SW 6-23-4, dr 3598 ft. Bu-Vi-Bar's Johnson 1, SWc 31-23-4, dr 4082 ft. Sinclair's Fee 1, SWc SW NE 2-20-5, dr 4335 ft.

GRANT COUNTY—Ostot Dev. Co.'s Snyder 1, NEc 6-28-3, sd 4102 ft. Barzell & Moses' Royce 1, SWc NW 34-26-4, sd 550 ft. Dedman, Flanngan & Hennage's Sherran 1, NEc SW 16-26-3w, sd 1910 ft. Gypsy Oil Co.'s Meugge 1, SEc NW 33-26-3, setting 5-inch 5408 ft.

HUGHES COUNTY—Sand Pet.'s Harnage 1, C SE SE SE 10-8-9, cementing 6-inch 3105 ft. Magnolia Pet. Co.'s Medore 1, NWc SW 28-8-9, dr 2960 ft. Sorry & Swartz's Wallace 1, SEc NW SE 4-8-11, sd 3145 ft. Johnson et al's Bear 1, SWc SE NW 32-8-11, hfw 3865 ft.

KIOWA COUNTY—A. C. Varner's Boham 1, SEc SW NW NW 5-6-19, sd 1127 ft.

KINGFISHER COUNTY — Marland Oil Co.'s No. 1, SWc NW 12-18-5, dr 3950, water. Pet. Eng. Core Drilling Co.'s Canfield 1, C NW SE 6-16-7, dr 965 ft. McKenna & Crawford's Sturgeon 1, NEc SW 27-16-6, ur 12-inch 1365 ft, hfw. Hoffman et al's Otie 1, NWc NE 20-15-8, rig. Chicago Oil Co. et al's Creaves 1, SWc SE 17-15-8, sd 2600 ft. Reiter & Foster's Davidson 1, SWc 23-15-5, rig.

KAY COUNTY—Tom Palmer et al's Barclay 1, NEc NW 28-26-1, dr 2960 ft. Ponco Lee Oil Co.'s McNeal 1, NE 32-26-2, fsh 2360 ft. Tonkawa Dev. Co.'s McDaniels 1, C SE SE SE 15-25-1, fsh 1140 ft.

LINCOLN COUNTY — Wentz Oil Corp.'s Lukenbeal 1, SWc SE 34-17-2, dr 2542 ft. Mid-Kansas Oil & Gas, Griswold 1, NEc NW 33-17-4, dr 3698 ft. Olean Pet. Co.'s Morris 1, SEc NW NE 18-16-4, fight cave 3643 ft. Wilcox O. & G. Co.'s Lillibridge 1, NEc NW 25-15-3, dr 4615 ft. Phillips Pet. Co.'s Williams 1, NEc SW NE 33-13-4, co 4520 ft.

LOGAN COUNTY—Bryan & Emery's Scott 1, NWc SE 33-19-4, skidding rig. Carter Oil Co.'s Rogers 1, SWc NW 32-19-3, dr 3898 ft. Franklin Oil Assn.'s Moore 1, SWc SE 28-18-4, dr 3932 ft. Santrock Drilling Co.'s Mathews 1, SW SE 11-18-3, rig. Haley & Pioneer's Quair 1, SWc SE 11-18-3, td 1900 ft, rig burnt. Zingery et al's Baker 1, NWc NE 5-17-1, dr 3475 ft. T. B. Slick's Berry 1, SWc SE 28-17-1, cementing 10-inch 2399 ft. Blackford O. & G. Co.'s Liar 1, C S L N½ SE 28-16-1, sd 1675 ft.

PAYNE COUNTY— Twin State Oil Co.'s Tibler 1, NEc NW NE 23-18-1, dr 1300 ft.

LOVE COUNTY — Schermerhorn-Ardmore's Dillard 1, SEc NE NW 25-6-2, co 3295 ft.

NOBLE COUNTY—Geo. Miller's 101 Ranch 1, NEc 1-24-1, dr 4285 ft. Independent's Miller 1, SEc NE SE 9-24-1, dr 4278 ft.

OKFUSKEE COUNTY — T. A. Johnson's Leedy 1, NEc SE SE 25-12-9, rig. J. M. Kessler's Scott 1, SWc 8-12-11, rig. J. W. McCullough's Carolina 1, NE NW SE 17-10-9, fsh 3460 ft. R. W. Vierson et al's Barnett 1, NWc SW NE 21-10-11, completed.

POTTAWATOMIE COUNTY — Shaffer et al's Ives 1, NWc SE SE 12-10-3, sd 3620 ft. McCullough's Madgett 1, NWc 25-10-4, cementing 6-inch 3965 ft. Tidal Osage's Kenyon 1, SWc SE SE 3-8-4, dr 3720 ft. Davis Detrick's McGathy 1, SEc NW 10-6-3. Croston et al's Hibbard 1, NWc NE SE 20-6-4. Magnolia's Fyke 1, NWc NW 20-7-5, cementing 3320 ft.

SEMINOLE COUNTY— Carter Oil Co.'s Harjocke 1, NEc NW NW 26-10-6, dr 2087 ft. Superior Oil Co.'s Noble 1, SEc SW SE 10-9-6, ur 8¼-inch cas 2405 ft. Pure Oil Co.'s Joah 1, C E L NW NE 15-9-7, dr new hole 2910 ft. Champlin & Bass' Sewell 1, NE SE SW 15-8-8, fsh 2620 ft. Magnolia Pet.'s Strother 1, SEc NW 17-8-6, fsh 1713 ft. Empire G. & F. Co.'s Litka 1, SWc SW 3-7-6, dr 3180 ft. I. T. I. Co.'s Litka 1, C NE NE 9-7-6, dr 2781 ft. Magnolia's Jackson 1, SWc NE 22-7-7, dr 2475 ft.

TILLMAN COUNTY—Barnsdall's Dixon 1, C NW SE 8-4-18, dr 700 ft. Ossie Drilling Co.'s Snelling 1, SEc SE SE 13-1-18, sd 1525 ft. Landfair et al's Greever 1, C S½ SW SE 6-2-16, sd 1420 ft. Tipton et al's Riverbed 1, SEc NW NE 1-5-15, dr 3737 ft.

TEXAS COUNTY—Valerius O. & G. Co.'s No. 1, NWc SW 18-3-12, dr 2565 ft; No. 2, SEc SE 32-5-12, sd 3521 ft, hfw. H. F. Wilcox's Zea 1, SWc SE 28-3-17, fsh 3045 ft; Hovey 1, SEc SE 21-4-14, dr 3555 ft. Foster-Reiter's No. 1, SEc SW 9-3-15, dr 3090 ft. Haley, Garber & Pulse's Ellison 1, NWc SE SE 4-1-12, dr 1560 ft. Reiter-Foster's Kugle 1, C NE 10-2-11, dr 3175 ft. Connell et al's Tansey 1, SEc NW 5-1-19, spd and sd.

Rocky Mountain Wildcats

NEW MEXICO

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Chaves County—		
Rogers Interests' No. 1	10	1310

WYOMING

DRILLING REPORT

Foreman Oil Co.'s No. 1, Rawhide, 24-26-62, dr 5510 ft. Marland Oil Co.'s No. 1, Wilson Dome, SW¼ 32-38-83, dr 1625 ft. Fairway Oil Co.'s No. 1, Crazy Woman, 7-47-82, sd 1030 ft. Carter Oil Co.'s No. 2, Billy Creek, SE¼ 17-48-82, dr 3875 ft; No. 1, Horse Creek, NW¼ 35-17-70, dr 2365 ft; No. 1, Nowood, SW¼ 5-48-90, dr 550 ft. Union Oil Co. of California's No. 1C, Fremont County, NE¼ 15-5-1, dr 1925 ft; No. 1S, Fremont County, SW¼ 10-28-92, dr 3762 ft; No. 1G, Fremont County, SE¼ 27-1-1, dr 300 ft; No. 1A, Black Mountain, NW¼ 34-43-91, dr 1122 ft; No. 1B, Black Mountain, NW¼ 28-43-91, dr 2116 ft; No. 1, Park County, NE¼ 9-46-101, dr 1238 ft. Ohio Oil Co.'s No. 2, Byron, 33-56-97, dr 815 ft; No. 3, Lance Creek, 4-35-65, dr 2575 ft; No. 3, Oregon Basin, 8-51-100, dr 550 ft; No. 4, Oregon Basin, 8-51-100, dr 600 ft; No. 3, Hidden Dome, 31-48-90, sr, 2800 ft; No. 11, Rock Creek, 2-19-78, dr 3075 ft. Prairie Oil & Gas Co.'s No. 2, Buffalo Basin, 17-27-96, dr 2570 ft; No. 1, Gooseberry, 32-47-100, ur, td 3550 ft. Continental Oil Co.'s No. 1, Geary Dome, 32-34-78, ur 3060 ft, td 4797 ft. Producers & Refiners Corp.'s No. 2, Garland, 24-56-98, ur 2330 ft, td 2488 ft; No. 1, St. Mary's, 14-21-84, dr 380 ft; No. 11, Baxter Basin, 1-19-104, dr 2350 ft; No. 2, Eight Mile Lake, 35-20-88, dr 3800 ft; No. 1, Greenville, 28-21-86, sr 665 ft; No. 1, Murphy Dome, 8-43-91, dr 2221 ft. No. 5, Big Sand Draw, 10-32-95, fsh; td 3312 ft; No. 7, Big Sand Draw, 14-32-95, dr 2020 ft.

COLORADO

Midwest Refining Co.'s No. 4 Iles, 22-4-92, ur 2340 ft. Texas Prod. Co.'s No. 2 Rio Blanco County, 31-2-102, fsh 1506 ft; No. 1, Wilson Creek, 27-31-94, ready to sp. Marland Oil Co.'s No. 1 Moffat County, 13-4-92, rigging up. Red Creek Oil Co.'s No. 1 El Paso County, rigging up. Gypsy Oil Co.'s No. 1 Garfield County, 5-8-102, dr 3520 ft. W. Franklin's No. 1, 38-35-2, Archuleta County, 38-35-2, dr 1525 ft. Moffat Pet. Co.'s No. 1, Moffat County, 13-4-92, rigging up. Chimney Creek Oil Co.'s No. 1, Chimmey Creek structure, 6-7-86, dr 150 ft.

NEW MEXICO

Pueblo Oil Co.'s No. 1, Eddy County, 33-17-28, dr 800 ft. Hall & Henderson's No. 1, Chaves County, 8-14-24, dr 750 ft. J. S. Covert's No. 1, 15-21-33, Lea County, dr 1650 ft. Knight Syndicate's No. 1, Rio Arriba County, 33-30-7, dr 1100 ft. Inglefield's No. 1, Lea County, 4-17-34, dr 1350 ft. Hausenfauss & Donley's No. 1, Eddy County, 13-18-27, dr 2570 ft. Henderson, Dexter & Blair's No. 1, Lea County, SW¼ 34-17-33, lcn. Skelly Oil Co.'s No. 1, Lea County, 22-17-31, dr 4000 ft. Bruce-Sullivan's No. 1, Eddy County, 1-18-31, dr 1500 ft. Navajo Oil Co.'s No. 2, Lea County, 28-17-28, lcn. No. 1-M, De Baca County, 16-1-27, fsh 1550 ft; No. 1, Valencia County, 8-6-1, sd 2778 ft. Rogers Interests' No. 1, Chaves County, 14-11-26, 10 bbl. producer, td 1310 ft. First commercial oil well completed in Chaves county.

UTAH

Ember Oil Co.'s No. 1, Moab, 34-26-21, cas, td 2875 ft. Midwest Exploration Co.'s No. 1, Elk Ridge, 30-34-19, ready to sp. Frances Oil Co.'s No. 1 Hulkito, 36-41-17, sp. Empire Pet. Co.'s No. 1, Moab, 20-25-21, sd 240 ft. Boulder Knoll Oil & Gas Co.'s No. 1, Boulder Knoll, 17-34-24, dr 550 ft. Crescent Eagle Oil Co.'s No. 1, Crescent Eagle, 4-27-19, sd 4000 ft. Empire Gas & Oil Co.'s No. 1, Gibson, 6-30-21, sd, td not given. Western States' Dev. Co.'s No. 1, Crescent, 4-22-18, dr 1430 ft; No. 2, Gibson, 12-30-20, dr 200 ft. Marland Oil Co.'s No. 1, Green River, 35-31-16, dr 3715 ft.

Arkansas Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Miller County—		
Gulf Ref. Co. Dorsey 1, 27-17-26..	*	2601

DRILLING REPORT

ASHLEY COUNTY—Pine Prairie Oil Co.'s Pine Prairie 2, 1-17-16, sw 3650 ft. Rhodes et al's Bledsoe 1, 29-15-7, dr 2800 ft.

BRADLEY COUNTY—Magnolia Pet. Co.'s Arkansas Timber Co. 1, 35-15-11, dr 2700 ft. McMurray et al's Southern 1, 7-15-11, coring 3190 ft. Phillips Pet. Co.'s Southern 1, 36-11-16, rig. Wingfield et al's Southern 2, 2-16-12, dr 2590 ft.

CALHOUN COUNTY—Delmar Oil Co.'s Gaibor 1, 16-11-14, sd 2233 ft.

CLEVELAND COUNTY—Kingsland Oil Co.'s Hall 1, 31-10-10, sd 1070 ft.

COLUMBIA COUNTY—Haynes et al's Runyon 1, 3-16-21, rig. Ky-Ark Pet. Co.'s Doss 1, 29-10-20, sd 2450 ft. Scott Phillip's Davis 1, 6-18-20, sd 2000 ft.

DREW COUNTY—McClintock et al's Ogle 1, 35-13-5, fsh 2530 ft. Spooner et al's Myers 1, 4-16-7, sd 50 ft.

GRANT PARISH—Jones & Watkin's Meek 1, 5-4-11, dk pat.

HEMPSTEAD COUNTY—Burton et al's Garland 1, 23-10-25, sd 1940 ft. Myers et al's Nicholls 1, 17-11-25, dr 2250 ft.

JEFFERSON COUNTY—Decem Oil Co.'s Hensley 1, 7-3-10, washing 2530 ft.

LA FAYETTE COUNTY—Arkansas Fuel Oil Co.'s Allen 5, 18-19-24, rig.

LITTLE RIVER COUNTY—Greeson et al's Waldrip 1, 4-13-21, dr 1510 ft. Grote et al's Allen 1, 2-13-29, sw 2932 ft. Johnson et al's Hawkins 1, 10-11-31, dr 1885 ft.

NEVADA COUNTY—Greeson et al's Tidwell 1, 22-13-21, sd 1200 ft. Humble O. & R. Co.'s Bodcau 4, 9-15-22, dr 2800 ft.

OUACHITA COUNTY—Grayson et al's Reynolds 1, 21-14-17, dk. Phillips Pet. Co.'s Tatum 1, 9-14-17, ur 3132 ft. Reynold's et al's Cortier 1, 2-14-18, to deepen 1579 ft. Van Diver et al's Yarbrough 1, 22-14-17, dr 1650 ft.

UNION COUNTY—Belmont et al's Hollis 1, 15-18-15, rig. Grimes & Jone's Van Hook 1, 8-18-14, lcn; Protho 1, 3-18-15, dr 2540 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, to set 6½-inch cas 2966 ft. Mathews et al's Lewis 1, 14-19-12, dr 2620 ft. Natural Gas &

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R. D. Mumford, Factory Representative,
Pampa, Texas.

Fuel Corp.'s Cordell 1, 9-18-13, dr 2125 ft. Simms Oil Co.'s Simmons 1, 9-18-13, coring 2800 ft. Walber et al's Cordell 1, 6-18-13, testing, 2984 ft.

Louisiana Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Caldwell Parish—		
Grant & Pipe's Cruse 1, 6-11-4e....	*	1625
Keisker & Simon's Meredith 1, 38-14-4e	*	2022
Claiborne Parish—		
Gulf Ref. Co.'s Crichton 1, 35-19-8	*	2335
De Soto Parish—		
J. P. Evan's Louisiana Land & Dev. Co. 1, 15-21-14 . .....¶1½		3050
Sutherlin 1, 20-12-14 . .....¶1½		2950
J. C. Walton's Chaffraix 1, 15-12-11 ¶3		2780
East Carroll Parish—		
T. A. Snell's Abston 1, 24-19-12e..	*	1750
Jackson Parish—		
Louisiana Pet. Co.'s Theus 1, 20-16-3w	*	2550

BIENVILLE PARISH—Collins & Woodley's Thomas 1, 23-16-10, coring 1965 ft.

BOSSIER PARISH—Collins & Woodley's Roberson 1, 22-23-12, lcn. Doern et al's Bolinger 1, 9-22-11, setting 6-inch cas 2662 ft. Herndon et al's Burkhalter 1, 17-18-11, dk. Tubbs et al's Jacobs 1, 26-20-13, rig.

CADDO PARISH—Dixie Oil Co.'s Jolley 1, 27-22-15, dr 4335 ft. Gulf Ref. Co.'s Byrd 1, 2-19-14, dr 3840 ft. Magnolia Pet. Co.'s Bradford 1, 24-21-15, dr 3855 ft; Dillion 16, 24-21-15, set 6⅝-inch cas 3758 ft; Dillion 17, 24-21-15, set 6⅝-inch cas 3582 ft; Spell 1, 19-21-15, fsh 3553 ft. The Texas Co.'s C. M. L. 42, 23-21-15, resetting 5-3/16-inch cas 3751 ft.

CALDWELL PARISH—Robbins et al's Beazley 1, 10-11-4e, sd 1020 ft. Victor Wenzel's Shaw 1, 22-14-4e, dk. Wright et al's Love 1, 16-11-2e, sd 1625 ft.

CLAIBORNE PARISH—Brown et al's Heard 1, 28-19-5, sd 2500 ft. Gilliland Oil Co.'s (Ramsey) Taylor B-10, 14-23-8, testing 4548 ft. Shaw et al's King 1, 20-21-8, dr 2000 ft. Triangle Drlg. Co.'s Keen 1, 7-19-5, sd 4602 ft.

DE SOTO PARISH—Alden Oil Co.'s Powell 1, 13-11-10, sd 1197 ft. Craige & Montze's Riggs 1, 27-14-13, dr 1145 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, dr 4790 ft. Magnolia Pet. Co.'s Bond 1, 27-12-11, dr 4060 ft. Snapp et al's Flores 1, 27-11-11, setting 6-inch cas 2690 ft.

FRANKLIN PARISH—R. W. William's Elhart-Lemon 1, 17-14-8e, lcn.

GRANT PARISH—Gulf Ref. Co.'s Swope 2, 17-9n-1e, set 6⅝-inch cas 1309 ft. Humble O. & R. Co.'s L. & A. Oil Co. 11, 20-9n-2w, lcn. Keen & Woolf's Rider 1, 16-9n-1e, dk pat. J. J. Long's Calhoun 1, 4-7-4w, sd 1285 ft. Tunica Pet. Co.'s L. & A. Oil Co. 8, 11-8-2w, dr 245 ft; L. & A. Oil Co.'s 9, 3-8-2w, dk; No. 10, 8-8-1w, dk. The Texas Co.'s Swope 1, 16-9n-1e, testing 1589 ft.

JACKSON PARISH—El Dorado Chief Oil Co.'s Jones 1, 3-14-4w, dr 1400 ft. Ferguson Trust's Martin 1, 5-15-1e, coring 2515 ft. Grigsby & Co.'s Adams 1, 22-17-4w, sd 1438 ft. Houseman et al's Norton 1, 34-15-3w, sd 400 ft. Raymond et al's Davis 1, 13-16-2e, rig.

LA SALLE PARISH—Jena Oil Corp.'s White sulphur 1, 23-8-4e, sd 103 ft. Tunica Pet. Co.'s L. & A. Oil Co. 11, 26-9n-3e, dr 2205 ft; L. & A. Oil Co.'s 12, 17-7-3e, rig.

LINCOLN PARISH—Arkansas Fuel Oil Co.'s Lincoln L. & S. Co. 1, 3-18-3w, dr 3170 ft. Buckley & Palmer's Davis 1, 12-20-3w, dr 2525 ft.

MOREHOUSE PARISH—Standard Oil Co.'s T. C. Co. 1, 34-21-8e, r 1140 ft.

NATCHITOCHES PARISH—Brothers et al's Cockfield 1, 78-7-5w, coring 1702 ft. Davidson et al's Louisiana Long Leaf 1, 21-7-9, rig. Forrest Trust's Ayers 2, 3-13-7, dr 1895 ft. J. B. Greer's Louisiana Long Leaf 1, 6-5-7w, dr 2700 ft. Gulf Ref. Co.'s Louisiana Long Leaf A-1, 39-7-7, rig. Humble O. & R. Co.'s Reget 1, 85-7-16, sd 636 ft. McCormick et al's Russell 1, 41-10-7, dr 1400 ft. Ohio Oil Co.'s Louisiana Long Leaf 1, 20-8-8w, dr 1765 ft. J. F. Palmer's Edenborne 1, 4-11-6, sd 2015 ft. E. Self's Fisher 1, 18-8-9w, dr 1030 ft. Weaver Bros.' Fee 1, 4-7-7, dr 2000 ft.

OUACHITA PARISH—Ouachita N. G. & O. Co.'s D'Arbonne 2, 25-19-2e, sd 2270 ft. Pace et al's Pace 1, 30-17-1e, rig.

RAPIDES PARISH—Hincy & Mack's Barrow 1, 29-5-2e, dr 2215 ft. Minnesota Oil Co.'s Wattermark 1, 7-5-3w, sd 600 ft. Pacholik et al's Voda 1, 12-4-1e, sd 1180 ft. Seip et al's Ball 1, 41-4-2w, dr 1790 ft.

RICHLAND PARISH—Gulf Ref. Co.'s England 1, 32-17-6e, dr 65 ft; Weyman 1, 23-18-8e, dr 2275 ft. Louisiana Pet. Co.'s Hicks 1, 22-17-6e, dr 1425 ft. Roxana Pet. Corp.'s Tensas 1, 3-14-5e, dr 1150 ft.

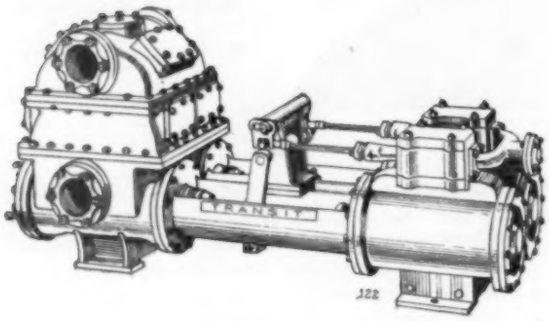
SABINE PARISH—Emlet et al's Bowman-Hicks 5, 8-7-12, coring 4070 ft; Bowman-Hicks 7, 11-7-14, sd 1820 ft; Sabine Lumber Co. 1, 8-7-1e, dk. Godchaux et al's Mills 1, 12-4-13, sd 851 ft. Magnolia Pet. Co.'s Louisiana Long Leaf 1, 16-6-11, dr 1470 ft.

UNION PARISH—Arkansas Fuel Oil Co.'s Reeves 1, 14-20-1e, dr 4430 ft. Camette et al's Tugwell 1, 21-22-1e, dk pat. Clark Pet. Co.'s Frost-Johnson 1, 18-23-1e, sd 2240 ft; Frost-Johnson 2, 8-23-1e, rig. Gulf Ref. Co.'s Nelson 1, 5-19-1e, set 10-inch cas 260 ft. Rhodes et al's Pickens 1, 22-22-2w, dr 2450 ft.

WEBSTER PARISH—Humble O. & R. Co.'s Cox 1, 22-21-10, dr 4210 ft. R. W. Norton's Josey-Massey 1, 27-21-10, set 5-3/16-inch cas 4246 ft. Palmer Corp.'s Fee 1, 30-20-8, dr 2445 ft. Smitherman & McDonald's Oakley 1, 29-23-11, dr 1745 ft. Southern Cdure Oil Purch. Co.'s Munn-Wadley 1, 1-22-10, sdtr 4620 ft.

WINN PARISH—Allen Dr. Co.'s Sanders 1, 21-13-2w, coring 940 ft. Cedar Creek Pet. Co.'s Sullivan 1, 6-10-2w, sd 1700 ft. Humble O. & R. Co.'s Edenborne C-1-A, 26-9n-3w, dr 2110 ft. Hyde & Nelson's Louisiana Central Lumber Co. 1, 16-13-1w, dk pat. J. C. Long's Milam 1, 28-13-3w, rig. Ohio Oil Co.'s Edenborne 1, 4-12-1w, sd 2297 ft.

TRANSIT
Separate Chest Type
PUMPS



A TRANSIT Separate Chest Type Pump is just what its name implies—the valve chest is separate and easily removable from the fluid cylinder casting.

Removing the cover exposes all the discharge valves, and removing the chest exposes the suction valves, thus facilitating inspection and repair.

Separate suction and discharge valve plates, containing all the fluid valves can be fitted to these pumps. These plates are easy and economical to renew and when used in pumping liquids of a particularly corrosive nature, this feature sometimes saves discarding the whole fluid end.

Made in a large variety of sizes and with practically any type of valve.

NATIONAL TRANSIT
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New York **Philadelphia** **Pittsburgh**
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Dependable Supplies and Service

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Pittsburgh steel products, seamless, interior upset.

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NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

	Feb. 1926	Mar. 1926	Apr. 1926	May 1926	June 1926	July 1925	Aug. 1926	Sept. 3	Sept. 10	Sept. 17
Arkansas	80	106	124	103	100	107	65	21	11	24
California	126	116	135	79	69	80	103	32	42	25
Louisiana	104	145	150	109	107	141	93	24	30	34
Kansas	144	160	170	156	161	143	119	32	25	14
Oklahoma	322	419	593	471	411	522	395	90	110	116
Texas	756	817	1070	941	1168	1468	1073	250	242	207
Mountain States	...	...	...	113	124	108	106	16	21	34
Total	1532	1763	2242	1972	2149	2569	1955	465	481	434

CALIFORNIA

Bedridge—Carneros Oil Co.'s No. 8, 31-28-21.

Elk Hills—Union Oil Co.'s Elk Hills 17, 26-30-24.

Huntington Beach—McKeon Oil Co.'s Huntington 2, 10-6-11. Standard Oil Co.'s Huntington H6, 10-6-11; Huntington H7, 10-6-11; Huntington H8, 10-6-11. The United Oil Co.'s Buck 1, 10-6-11. Geo. F. Getty Inc.'s H. B. 8, 10-6-11. Petroleum Securities Co.'s Lambert 1, 10-6-11; Parker 1, 10-6-11; Drew 1, 10-6-11.

Long Beach—Progressive Synd.'s No. 3, 19-4-12.

Los Angeles Co.—Marland Oil Co.'s Selover 1, 10-5-12.

Midway—C. R. Craft's No. 3, 21-31-22. Honolulu Cons. Oil Co.'s No. 87, 6-32-24. King G. Gillette's B-5, 21-31-22; C-11, 21-31-22.

Montebello—Standard Oil Co.'s Howard & Smith 4, 2-2-12.

Richfield—Standard Oil Co.'s Kraemer 2, 23, 29-3-9. General Pet. Corp.'s Stern 8, 28-3-9.

Rosecrans—Julian Pet. Corp.'s Moser 1, 12-3-14. Big Five Oil Co.'s No. 2, 18-3-13.

Torrance—C. C. M. O. Co.'s Del Amo 44, 16-4-14; Del Amo 60, 16-4-14.

Ventura—Associated Oil Co.'s Lloyd 37, 28-3-23.

MOUNTAIN STATES

WYOMING

Harry E. Briss' No. 1, NE¼ 2-39-61. Fargo-Western Oil Co.'s No. 29, SE¼ 3-33-83. Marland Oil Co. of Colorado's No. 1, SW¼ 32-38n-83w. Lincoln Dev. Co.'s No. 1, NE¼ 23-21n-117. Ohio Oil Co.'s No. 3, NW¼ 8-51-100; No. 4, NE¼ 8-51-100. Noah F. Clark's No. 1, SE¼ 13-56n-98w.

COLORADO

Texas Production Co.'s No. 9, Lot 17, 33-5n-91w; No. 1X, Lot 3, 15-4n-91w.

UTAH

Utah Southern Oil Co.'s No. 1, NE¼ 28-40-18; No. 1, NW¼ 21-28-20. W. R. Kimball's No. 1, Lot 20, 6-30s-21e. Midwest Exploration Co.'s No. 1, 30-34s-19e.

NEW MEXICO

Ohio Oil Co.'s No. 1, NW¼ 18-17s-32e. Rollie Scales' No. 1, NE¼ 20-19-38. Henderson-Dexter-Blair's No. 1, SW¼ 34-17s-33e.

MONTANA

Homestake Exploration Co.'s No. 6, SE¼ 32-35n-2w. Colonel Kevin Oil Co.'s No. 3, NE¼ 27-35-2w. Homestake Exploration Co.'s No. 23-35n-2w. L. F. Sontagg's No. 1, SW¼ 17-15n-30e. Security Oil Co.'s No. 13, NW¼ 30-35-1. Caine Oil Co.'s No. 2, SE¼ 32-35-1. Sunburst Oil Co.'s No. 1, NE¼ 1-32-2. Barmac Oil Co.'s No. 4, NW¼ 30-35-1. Ferdig Oil Co.'s No. 10, NE¼ 1-34-2; No. 12, NW¼ 35-35-2. Bistate Oil Co.'s No. 1, SW¼ 11-33-1. Fulton Oil Co.'s No. 18, SW¼ 35-31-1. Byorum Interests' No. 1, NW¼ 33-35-1. Ohio Oil Co.'s No. 14, NE¼ 30-35-1. Bowell's Interests' No. 1, 33-35-1. Medford Oil Co.'s No. 3, NE¼ 24-24-2. "56" Oil Co.'s No. 1, NE¼ 29-35-1. Gordon Interests' No. 1, SW¼ 24-24-2.

KANSAS

Butler County—Vickers Pet. Co.'s No. 1 Drake, northwest corner of the southwest of 2-25-3. Phillips Pet. Co.'s No. 1 Cora, southeast corner of the southwest of the southwest of 12-27-7. White Eagle Oil & Ref. Co. et al's No. 4 Seward, northwest corner of the southeast of the southwest of 12-27-7; No. 5 Seward, southeast corner of the northeast of the southwest of 12-27-7. Phillips Pet. Co.'s No. 3 Phillips-Seward, northeast corner of the northwest of the northwest of 13-27-7. Ruben and Noble's No. 1 Johnson, northwest corner of the southwest of 21-27-7. Kismet & Sanford's No. 1 Layton, northwest corner of the southeast of 7-28-5.

Chase County—Mississippi Valley Oil Co.'s No. 1 Mulvane, southwest corner of the northwest of the northwest of 36-18-7.

Coffey County—McGinnis et al's No. 1 Volland, southeast corner of 17-22-17.

Elk County—Pure Oil Co.'s No. 10 Webb, northwest corner of the southwest of the southwest of the northwest of 13-31-10. Union Gas Corp.'s No. 16 Webb, northeast corner of the southeast of the southeast of the northeast of 14-31-10.

Greenwood County—Skelly Oil Co.'s No. 5 Noler, southwest corner of 10-23-9. Mission Oil Co.'s No. 8 "A" Schindler, southwest corner of the southeast of the northwest of 27-23-13. Robertson and Dougan's No. 1 Dougan, southwest corner of the northwest of the northwest of 20-24-11.

OKLAHOMA

Alfalfa County—Howard Travis et al's No. 1, northeast corner of the southeast of 27-26-9w.

Caddo County—Magnolia Pet. Co.'s No. 4 Lackey, southwest corner of the northwest of the northwest of 11-5n-9w.

Carter County—Magnolia Pet. Co.'s No. 1 Pollock, southwest corner of the southeast of 14-1s-3w; No. 6 Newstadt, southwest corner of the southeast of 34-1s-3w. Humble Oil & Ref. Co.'s No. 1 Calvery, southwest corner of the northwest of the southwest of 2-2s-3w. Magnolia Pet. Co.'s No. 2 Adams, southwest corner of the northeast of the southeast of 3-2s-3w; No. 3 Adams, northeast corner of the southeast of 3-2s-3w.

Creek County—Lima Oil & Gas Co.'s No. 4 Green, old well deepened, northwest corner of the northeast of the northwest of 24-17-8. T. B. Slick's No. 1 Jones, southeast corner of the southwest of the northwest of 23-16-8. Magnolia Pet. Co.'s No. 4 Lewis, southwest corner of the northeast of the southwest of 30-15-8. C. G. Tibbens' No. 1 Bear, northwest corner of the southwest of 24-14-8. Texas Company's No. 3 Johnson, center of the south line of the southwest of the northeast of 26-14-8. C. L. McMahon's No. 1 Lewis, southeast corner of the southwest of 7-19-9. Crandall and Murta's No. 1 Mills, center of the south line of the northeast of the southeast of 32-18-11. Day Brothers' No. 3 Townlot, southeast corner of the northeast of the northeast of the northeast of 6-18-12; No. 1 Townlot, old well deepened, southeast corner of the northeast of 6-18-12. Pioneer Petroleum Co.'s No. 12 Bucktrot, center of the north line of the south half of the northwest of the northeast of 24-17-10. C. G. Tibbens' No. 3 R. Lucas, center of the north line of the southwest of the northeast of 31-15-9. C. G. Tibbens' No. 1-B Posey, northwest corner of the northeast of the northeast of 31-15-9. Atlantic Oil Producing Co.'s No. 3 Tiger, southwest corner of the northeast of 16-14-10.

Grady County—Stogner et al's No. 8 McCaughtry, northwest corner of the southwest of the northwest of the northeast of 23-5n-8w. Nichols Oil & Dev. Co.'s No. 3 Chandler, northeast corner of the southeast of 27-5n-8w, correction. Carter Oil Co.'s No. 1 Ridley, northeast corner of the northwest of the northwest of 17-3n-5w; No. 1 Russell, northeast corner of the southwest of 21-3n-5w. Briscoe and Hall's No. 3 Nation, northwest corner of the southeast of 34-3n-5w. Carter Oil Co.'s No. 1 Cross, northeast corner of the northwest of the southwest of 35-3n-5w.

Kay County—The Texas Co.'s No. 3-W Day, northwest corner of the northeast of the southeast of 21-29-1w. Comar Oil Co.'s No. 6 Duncan, old well deepened, southwest corner of the northeast of the southwest of 21-29-1w; No. 10-W Harvell, northeast corner of the northwest of the northeast of 21-29-1w; No. 2-W Bechtel, northeast corner of the southeast of the southeast of the southwest of 5-28-1w; No. 1-W McCullough, southwest corner of the southeast of 5-28-1w. Barnsdall Oil Corp.'s No. 4 Liegarat, southwest corner of the northwest of 28-25-1w. Gypsy Oil Co.'s No. 5 Gardner, northwest corner of the southwest of 28-25-1w.

Muskogee County—J. P. Tilley's No. 1 A. Harrison, southeast corner of the southwest of 1-15-16.

Okfuskee County—Bingham & Smith's No. 1 Scott, northwest corner of the southwest of the southwest of 15-13-8. Cromwell Oil & Gas Co.'s No. 1 Rogers, center of the west line of the southwest of the southeast of 8-12-7. Kingwood Oil Co.'s No. 1 Grayson, southwest corner of the southeast of 33-11-11; No. 1 Barnett, northeast corner of the northwest of 4-10-11.

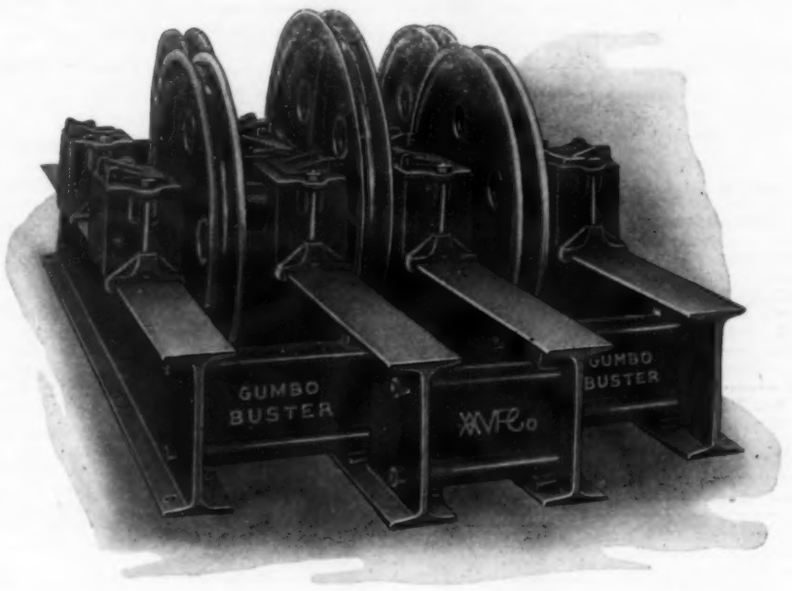
Okmulgee County—Anglo-Tex Oil Co.'s No. 1 Phillips, northwest corner of 29-16-14. Shaffer Oil & Gas Co.'s No. 1 Tobler, old well deepened, southwest corner of the northwest of the southwest of the southeast of 34-15-12. Sidwell Drilling Co.'s No. 2 Lunsford, northwest corner of the southwest of the southwest of 4-14-11. J. H. Rebold's No. 6 McIntosh, southeast corner of the northeast of the southeast of 5-14-11. A. G. Hazlett et al's No. 1 N. Dunbar, southwest corner of 30-14-13. J. K. Gardner's No. 2 S. Fosher, old well deepened, center of the east line of the northwest of the northwest of 22-13-14.

Osage County—Keener Oil & Gas Co.'s No. 22, northwest of the southeast of the northeast of 15-29-10. Laurel Oil & Gas Co.'s No. 1, southwest corner of the southeast of 27-28-6. Mid Kansas Oil & Gas Co.'s No. 6, northeast corner of the southeast of 36-27-6. Osage Gas Producing Co.'s No. 371, southwest corner of the northeast of the southwest of 8-27-11. Indian Territory Illuminating Oil Co.'s No. 1,

The Gumbo Buster Crown Block

Russian Model A

Safest and Strongest



Bronze Bushed

An extra strong and safe crown block for use on wells of great depth where most severe drilling conditions are encountered.

SAFETY FEATURES

1. STEEL SHEAVES insuring great factor of safety.
2. Forged STEEL center pin NOT cast as part of sheaves, eliminating hidden defects in cast pins.
3. Sheaves cannot jump out of boxes.
4. All nuts secured by cotter keys.
5. Sufficient clearance between sheaves and I-beams to prevent wire rope wedging. Eliminating cut wire rope and falling equipment if rope jumps out of sheave.

EFFICIENCY FEATURES

1. Center sheave THIRTY-SIX inches in diameter, and outside sheaves THIRTY inches in diameter. Big sheaves result in speed and increased life of wire rope.
2. Can be used with an opening of 4½ feet through watertable.
3. Extra large, interchangeable, removable, self-aligning bronze bushings.
4. Adjustable steel bearing boxes which will not shift while in use.
5. Block can be raised to top of derrick in two sections.

The design and construction of this big crown block are in answer to the demands for a block to safely and efficiently handle the tremendous loads attendant on deep drilling.

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OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS AT STORES THROUGHOUT

OKLAHOMA TEXAS ARKANSAS LOUISIANA

northeast corner of the southwest of 31-25-9. Walker Valley Oil Co.'s No. 12, northeast of the northwest of the northwest of 34-24-10. Sophia Nadle's No. 10, southwest corner of the northeast of the southwest of the southwest of 18-22-11. Oklahoma Natural Gas Co.'s No. 760, northwest corner of the northeast of 20-21-11. Barnsdall Oil Corp.'s No. 17, northeast corner of the northwest of the southeast of 5-20-12.

Payne County — Josey Oil Co.'s No. 12, Laughlin, northeast corner of the southwest of the southeast of 36-19-5.

Pottawatomie County—Magnolia Pet. Co.'s No. 1 Mull, northeast corner of the southeast of 15-7-4.

Seminole County—Sinclair Oil & Gas Co.'s No. 11 Pierce, center of the south half of the southeast of the southeast of 33-11-8. Sory and Swartz's No. 1 Bruner, northwest corner of the northeast of 19-10-6. Gypsy Oil Co.'s and Prairie Oil & Gas Co.'s No. 1 Micco, southwest corner of the northwest of 12-10-7. Carter Oil Co.'s No. 2 F. Knapp, southeast corner of the southwest of the southwest of 13-9-6; No. 1 G. F. Killing, southwest corner of the southeast of 14-9-6. Mid-Continent Pet. Corp.'s No. 2 Rentie, northeast corner of the southwest of the southeast of 14-9-6. Tidal Oil Co.'s No. 1 Noble, old well deepened, northeast corner of the northwest of the northwest of 15-9-6. Amerada Pet. Corp.'s No. 2 Fixico, southeast corner of the northeast of 23-9-6; No. 3 Fixico, northeast corner of the southeast of the northeast of 23-9-6; No. 4 Fixico, northwest corner of the southeast of the northeast of 23-9-6;; No. 2 Killingsworth "A", northeast corner of the southwest of the northeast of 23-9-6; No. 1 Killingsworth, "B", southwest corner of the northeast of 23-9-6; No. 2 Killingsworth "BB", northwest corner of the southwest of the northeast of 23-9-6; No. 1 Rentie, southeast corner of the northwest of 23-9-6. Carter Oil Co.'s No. 3 F. Carter, southeast corner of the northeast of the southeast of 23-9-6; No. 4 Carter, southwest corner of the northeast of the southeast of 23-9-6; No. 1 Mary Killing, southeast corner of the northwest of 23-9-6. Independent Oil & Gas Co.'s No. 1 Fixico, southwest corner of 23-9-6; No. 2 Fixico, southeast corner of the southwest of the southwest of 23-9-6. Indian Territory Illuminating Oil Co.'s No. 2 Goodin, southeast corner of the northeast of the northeast of 23-9-6; No. 3 Goodin, southwest corner of the northeast of the northeast of 23-9-6; No. 2 Harjo, southwest corner of the southeast of the southeast of 23-9-6; No. 3 Harjo, northwest corner of the southeast of southeast of 23-9-6; No. 4 Harjo, northeast corner of the southeast of the southeast of 23-9-6. Tidal Oil Co.'s No. 3 Harjo, northeast corner of the southeast of the southeast of 23-9-6; No. 4 Harjo, southeast corner of the northwest of the southeast of 23-9-6; No. 5 Harjo, northeast corner of the southwest of the southeast of 23-9-6; No. 6 Harjo, southeast corner of the southwest of the southeast of 23-9-6. Barnsdall Oil Corp.'s No. 1-A Carter, twin, southeast corner of the northwest of 24-9-6; No. 8 Carter, northeast corner of the southwest of the northwest of 24-9-6. Carter's No. 4 Joe Carter, northwest corner of the southwest of the southwest of 24-9-6. Gypsy Oil Co.'s No. 6 Carter, in the southeast corner of the northwest of the northwest of 24-9-6; No. 7 Carter, southwest corner of the northwest of the northwest of 24-9-6; No. 8 Carter, northeast corner of the northwest of northwest of 24-9-6. Indian Territory Illuminating Oil Co.'s No. 1 James, old well deepened, northwest corner of the southeast of 24-9-6; No. 8 Reed, old well deepened, southeast corner of the southwest of the northeast of 24-9-6. Tidal Oil Co.'s No. 4 Joe Carter, southwest corner of the northwest of the southwest of 24-9-6. Gypsy Oil Co.'s No. 1 D. Harjo, northwest corner of the southwest of 25-9-6; No. 2 D. Harjo, southwest corner of the northwest of the southwest of 25-9-6; No. 6 Fixico, southeast corner of the northeast of the northeast of 26-9-6; No. 7 Fixico, northeast corner of the northwest of the northeast of 26-9-6; No. 8 Fixico, northwest corner of the northeast of the northeast of 26-9-6; No. 3 J. Wolf, northwest corner of 26-9-6; No. 4 J. Wolf, northeast corner of the northwest of the northwest of 26-9-6. Independent and Garland's No. 7 Fixico, southeast corner of the northeast of 26-9-6; No. 8 Fixico, northeast corner of the southeast of the northeast of 26-9-6. Indian Territory Illuminating Oil Co.'s No. 4 Bowlegs, northwest corner of the northeast of the southeast of 26-9-6; No. 5 Bowlegs, southeast corner of the northwest of the southeast of 26-9-6; No. 6 Bowlegs, northeast corner of the southeast of 26-9-6; No. 7 Bowlegs, southeast corner of the northeast of the southeast of 26-9-6; No. 8 Bowlegs, northeast corner of the southeast of the southeast of 26-9-6. Tidal Oil Co.'s No. 7 Fixico, northwest corner of the northeast of the northwest of 26-9-6. Empire Gas & Fuel Co.'s No. 1 Wilson, northeast corner of the northwest of the northeast of 34-9-6. Turman Oil Co.'s No. 1 Cudjo, southwest corner of the northwest of 35-9-6.

Stephens County—Clark & Cowden's No. 1 Payne, southwest corner of the northwest of 2-1n-5w. Brown & McAllester's No. 6 Vess, southeast corner of the southwest of 25-1s-8w. Beard & Cobb's No. 2 Brigham, southeast corner of the southwest of the southwest of the southwest of 30-1-8w. Medlin et al's No. 1 Bruks, northwest corner of the northeast of 34-1s-8w, corrected. Magnolia Pet. Co.'s No. 8 School, northwest corner of the northeast of 33-1s-8w. McMann Oil Co.'s No. 11 Stevens, old well deepened, northwest corner of the northeast of the northeast of the northwest of 33-1s-8w. Ellis Drilling Co.'s No. 1 Nigh, southeast corner of the southwest of the northwest of 34-1s-8w.

Tulsa County—Sand Springs Home's No. 1 Steele, southeast corner of the northeast of the southwest of 23-19-11.

Wagoner County—R. E. Stewart et al's No. 1 L. Bruner, northwest corner of 6-18-18.

LOUISIANA

Bossier Parish—Woodley & Collins, Giddens-Lane Bldg., Shreveport, G. W. Roberson 1, 22-23n-12w, 330 ft N and 330 ft W of SE corner of NW¼.

Caddo Parish—Bayou State Oil Corp., 1008 Slattery Bldg., Shreveport, Peak 23, 23-22n-15w, 550 ft W and 700 ft N of SE corner of SE¼ of NE¼. Golden Flood Oil Co., Oil City, Atkins et al 2, 31-21n-15w, 156 ft S and 78 ft E of NW corner of SW¼ of SE¼. H. H. Morris Drilling Co., Gilliam, Pala Oil Co. 2, 1-20n-16w, 1045 ft E and 395 ft N of center of section. Owl Oil Company, Greenwood, Wilburn 1, 4-17n-16w, 660 ft N and 660 ft E of SW corner of SW¼ of SE¼. Superior Oil Co., Camden, Ark., Youree 5, 26-20n-15w, 2945 ft N and 2310 ft E of SW corner of section. The Texas Co., Ricou-Brewster Bldg., Shreveport, Curtis 1, 14-20n-15w, 200 ft S and 200 ft E of NW corner of SW¼; Caddo Levee Board 65, 33-21n-16w, 200 ft S and 200 ft W of NE corner of SE¼. Thomason & Fitzsimmons, 527 Wichita Street, Shreveport, Muslow 2, 31-21n-15w, 150 ft S and 150 ft E of NW corner of N½ of SE¼; Muslow 3, 31-21n-15w, 150 ft S and 200 ft W of NE corner of NW¼ of SE¼; Muslow 4, 31-21n-15w, 150 ft N and 150 ft E of SW corner of NW¼ of SE¼.

Calcasieu Parish—Marrs-McLean, Beaumont, Texas, J. G. Gray Est. 1, 33-10s-12w, 530 ft S and 40 ft E from center of section. Vacuum Oil Co., 214 Gulf Bldg., Houston, Texas, Farquhar 4, 9-10s-9w, 635 ft W and 175 ft N of SE corner SW¼ of NW¼; Freiberg & Wolf 3, 9-10s-9w, 540 ft W and 270 ft S of NE corner NE¼ of SW¼.

Caldwell Parish—Victor Wenzel, Tr., 421 Ardis Bldg., Shreveport, Caldwell Land & Timber Co. 1, 22-14n-4e. 200 ft S and 150 ft E of NW corner of NE¼ of SW¼.

De Soto Parish—The Texas Co., Shreveport, Wemple A-11, 2-12n-12w, 1170 ft S and 902 ft W of NE corner of section.

Grant Parish—Keen & Woolf Oil Co., Commercial Bank Bldg., Shreveport, Rider 1, 16-9n-1e, 150 ft S and 150 ft W of NE corner of NW¼ of NE¼.

La Salle Parish—Catalina Oil Co., Urania, Urania 1, 8-10n-2e, 895 ft W and 185 ft S of NE corner of NW¼ of SW¼. Jones & Dobbs, Tullos, Russell 2, 24-10n-1e, 40 ft N and 40 ft E of SW corner W½ of W½ of SE¼ of SW¼. Pima Oil Co., care of Beckman & Freeman, Urania, Urania 9, 7-10n-2e, 700 ft N and 600 ft E of SW corner of SW¼ of NE¼. Rochelle Oil & Gas Co., Tullos, Tremont 3, 30-10n-2e, 190 ft S and 110 ft E of NW corner of SW¼ of NW¼. H. T. Taylor et al, Monroe, Urania 5, 19-10n-2e, 130 ft S and 40 ft E of NW corner of SE¼ of NW¼. Tunica Pet. Co., Shreveport, L. & A. Oil Co. 13, 25-8n-1e, 300 ft S and 300 ft W of NE corner of NE¼ of NW¼. G. W. Wetherbee, P. O. Box 512, Shreveport, Urania B-2, 3-9n-1e, 150 ft S and 152 ft W of NE corner of SE¼ of SE¼; Urania B-3, 3-9n-1e, 153 ft N and 271 ft E of SW corner of SE¼ of SE¼.

Morehouse Parish—Natural Gas Producing Co. of La., Bastrop, Morehouse School Board 1, 16-21n-4e, 1320 ft S and 1980 ft W of NE corner of section.

Natchitoches Parish—Terrebonne Gas Co., Houma, Russell 1, 44-10n-7w, 200 ft E and 100 ft N of Common corner of sections 44, 15 and 14.

Ouachita Parish—Maury Drilling Co., care of E. N. Florsheim, Monroe, J. P. Frierson 5, 20-19n-4e, 3300 ft S and 660 ft E of NW corner of section.

Red River Parish—Magnolia Petroleum Co., Slattery Bldg., Shreveport, Continental Polly 36, 7-12n-10w, 400 ft S and 100 ft W of NE corner of SE¼ of NW¼.

Union Parish—Natural Gas Producting Co. of La., Bastrop, Stevens 1, 31-21n-4e, 660 ft S and 660 ft E of NW corner of section.

Webster Parish—I. J. Laborde, Tr., Cedar Grove, J. H. Bruner 1, 30-19n-10w, 150 ft S and 150 ft E of NW corner of NE¼ of NE¼.

Winn Parish—O. K. Allen, et al, Winnfield, Fee 2, 23-10n-1e, 510 ft W and 150 ft N of SE corner of SW¼ of SW¼. O. W. Clark, Tullos, Harper 9, 23-10n-1e, 350 ft E and 575 ft N of SW corner of SE¼ of SW¼; Harper 10, 26-10n-1e, 620 ft S and 100 ft W of NE corner of NE¼ of NW¼.

ARKANSAS

Columbia County—Haynes et al's Runyon 1, 3-16-21, 660 ft N and 330 ft E of SWc of section.

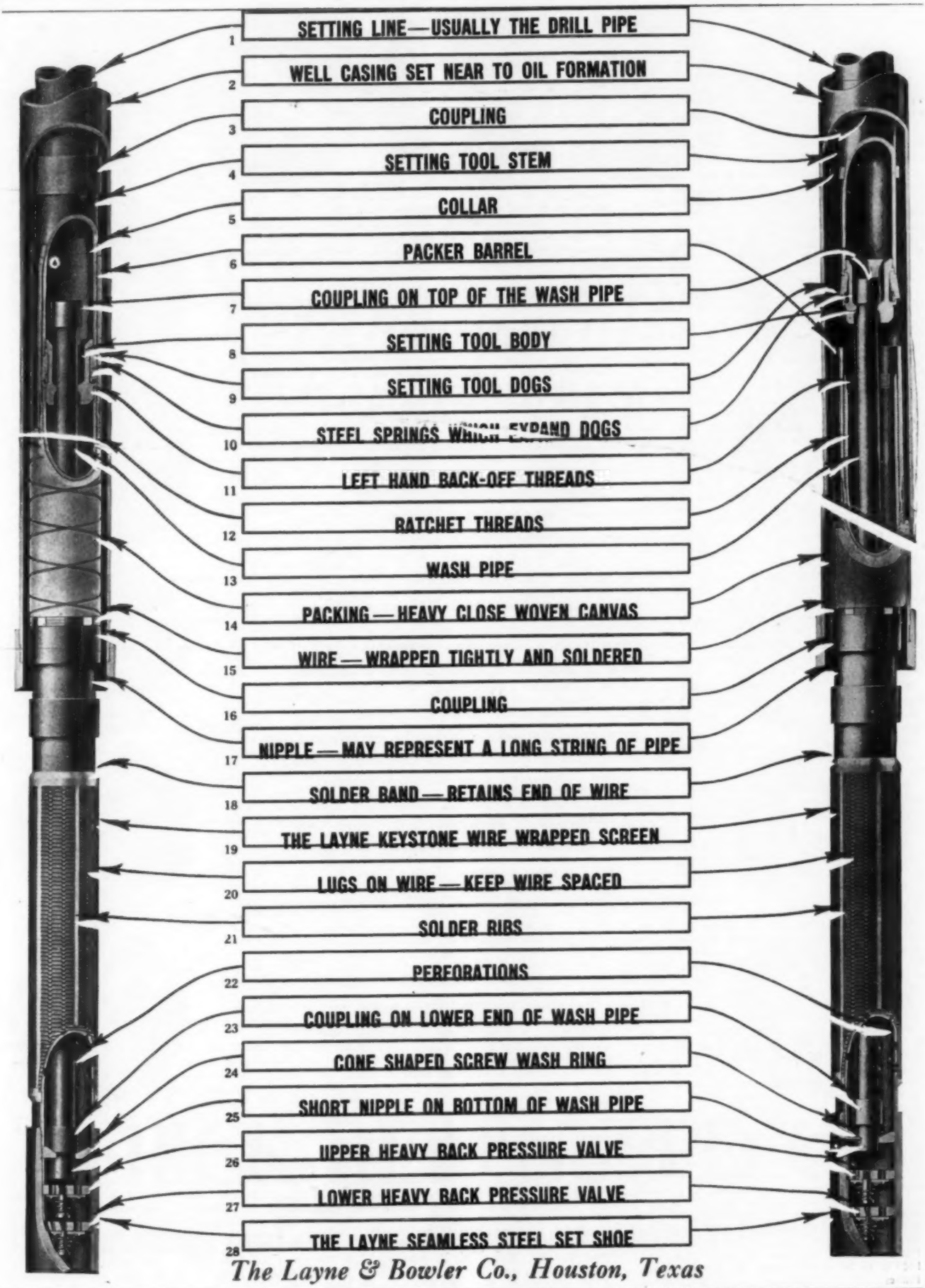
La Fayette County—Arkansas Fuel Oil Corp.'s Allen 5, 18-19-24.

Nevada County—Humble O. & R. Co.'s Groves C-2, 1-14-21, SEc of section. Wright et al's Groves 1, 12-14-21, NW cor of section.

TEXAS

Archer County — Empire Gas & Fuel Co., Wichita Falls, J. R. Parkey 4, S 2, S. P. Ry sur, 150 ftto N and W lines; 2, same sur, 150 ft to E and 450 ft to N line. Magnolia Pet. Co., Dallas, L. L. Hudson 3, B 80, Club Ranch sur, 300 ft W of No. 2; A. J. Lowe 17, B 2, I. Holman sur, 150 ft to N and E lines; L. L. Hudson 4, B 80, Harris Subdivision, 300 ft W of No. 8. Underwood Drilling Co., Wichita Falls, Marland O. Co. 1, B 1378, TE&L sur, 150 ft S and W from NE cor. Harry Hines, Wichita Falls, J. H. Turbeville 1, B 17, Harris Subdivision, 150 ft to S and 510 ft to W line. Staley, Wynne & Co., Wichita Falls, J. H. Turbeville 1, S 146, NE¼ R. Carson sur, 150 ft to S and W lines. Plains Prod. Co., Wichita Falls, J. H. Turbeville 1, S 172, R. Carson sur, 150 ft to N and W lines. Pandem Oil Corp., Wichita Falls, W. H. Thomas 8, B 5, N. Thomas sur, 300 ft E of No. 7. Simms Oil Co., Dallas, Turbeville 2, B 146, R. Carson sur, 300 ft S of No. 1; Burleson-Tur. 1, B 142, R. Carson sur, 1050 ft to E and 760 ft to S line; Turbeville A8, S 172, R. Carson sur, 300 ft E of No. 7. McCarty Oil Co., Wichita Falls, G. Parich 4, B 3, ATNC Lds. sur, 150 ft to S and 300 ft to W line; 3, B 1, same sur, 300 ft to E and 150 ft to S line. Murchison & Fain Oil Co., Wichita Falls, W. J. Logan B3, A. Armes sur No. 5, 1300 ft to E and 1000 ft to S line. Texas Co., Wichita Falls, Turbeville 8, B 172, R. Carson sur, 343 ft to E of No. 7; 7, same sur, 343 ft E of No. 5. Texhoma Oil & Ref. Co., Wichita Falls, W. H. Thomas 2, Lot 7, N. Thomas sur, 150 ft to E and 645 ft to N line. Lee Wilson, 733 Waggoner Bldg., Wichita Falls, Turbeville 1, B 150, R. Carson sur, 150 ft to S and E lines. Cook & Reeder, Wichita Falls, A. M. Kunkel 4, S 3, BBB&C sur, 300 ft E of No. 2. Roxana Pet. Corp., St. Louis, Mo., J. Kreeger 6, S 2434, TE&L sur, 750 ft to N and W lines; C. L. Abercombie 5, SP Ry sur, 525 ft to W and 735 ft to N line. Petroleum Prod. Co., Wichita Falls, Turbeville

Use Layne Screens and Packers


1 SETTING LINE—USUALLY THE DRILL PIPE
2 WELL CASING SET NEAR TO OIL FORMATION
3 COUPLING
4 SETTING TOOL STEM
5 COLLAR
6 PACKER BARREL
7 COUPLING ON TOP OF THE WASH PIPE
8 SETTING TOOL BODY
9 SETTING TOOL DOGS
10 STEEL SPRINGS WHICH EXPAND DOGS
11 LEFT HAND BACK-OFF THREADS
12 RATCHET THREADS
13 WASH PIPE
14 PACKING—HEAVY CLOSE WOVEN CANVAS
15 WIRE—WRAPPED TIGHTLY AND SOLDERED
16 COUPLING
17 NIPPLE—MAY REPRESENT A LONG STRING OF PIPE
18 SOLDER BAND—RETAINS END OF WIRE
19 THE LAYNE KEYSTONE WIRE WRAPPED SCREEN
20 LUGS ON WIRE—KEEP WIRE SPACED
21 SOLDER RIBS
22 PERFORATIONS
23 COUPLING ON LOWER END OF WASH PIPE
24 CONE SHAPED SCREW WASH RING
25 SHORT NIPPLE ON BOTTOM OF WASH PIPE
26 UPPER HEAVY BACK PRESSURE VALVE
27 LOWER HEAVY BACK PRESSURE VALVE
28 THE LAYNE SEAMLESS STEEL SET SHOE

The Layne & Bowler Co., Houston, Texas

1, B 171 R. Carson sur, 150 ft to S and W lines. Willard D. Hill, P. O. Box 1176, Wichita Falls, M. L. Andrews 1B, S 1826, TE&L sur, 150 ft to N and E lines. L. Burns, 2241 First Nat'l Bank Bldg., Wichita Falls, Turbeville 3, B 21, JCSL sur, 300 ft W of No. 1. Shappell Oil Co., Box 436, Wichita Falls, J. L. Jackson 1, Lot 8, B 2, Coffman sur, 150 ft to E and S lines. Panhandle Ref. Co., Wichita Falls, Cortez-Wilson 1, B 111, ATNC Lds. sur, 1701 ft to S and 1350 ft to E line.

Atascosa County—Helvetia Oil Co., San Antonio, J. Wiemers 15, Duk 344, Her 1433, 200 ft N of Co. line, in line Nos. 12 and 11.

Brown County—Humble Oil & Ref. Co., Cis-Co., R. Hickman 2, T. Benson sur, 683 ft to S and 150 ft to E line; D. C. Wooldridge 2, ET Ry sur, 157, 470 ft to N and 150 ft to E line; 3, same sur, 790 ft to N and 150 ft to E line; 4, same sur, 150 ft to N and 452 ft to E line. Brown & Co., Inc., Cisco, W. F. Gaines 3, S 145, W. L. Swain sur, 150 ft to E and 864 ft to N line. A. J. Baker, Jr., Zephys, Woods 1, J. S. Laughlin sur, 200 ft to S and W lines. Cranfill & Reynolds, Cisco, C. Johnson 1, B 613, I. Day sur, 160 ft to W and S lines; L. L. & M. A. Childress 21, B 50, J. Armendaris sur, 350 ft N of No. 20; T. B. Starkey 5, B 50, same sur, 300 ft E of No. 4. Charter Oil Co., Brownwood, L. L. Childress 9, J. Almendaris sur, 400 ft to E and 150 ft to S lines. Kone Prod. Co., San Antonio, J. I. Foster 7, T. Benson sur, 150 ft to W and S lines. H. R. Emerson, Interest, Box 1069, Fort Worth, E. B. Sikes 1, H. Upchurch sur, No. 816, 150 ft to N and W lines. States Oil Corp., Eastland, D. C. Wooldridge 12, S 157, ET Ry sur, 150 ft to S and E lines. The Midwest Exploration Co., Coleman, Borbour-Suttles 2, R. Mitchell sur, 150 ft to S and 450 ft to W lines; M. J. Suttles 12, same sur, 450 ft to S of No. 7. W. C. Guiler, Ave. A, Cisco, C. D. Boyd 1, S 53, Wm. Howell sur, 640 ft to E and 600 ft to S lines. Pennok Oil Corp. et al, Brownwood, L. Leach 1, BBB& CR sur A69, 1050 ft to N and 150 ft to E lines.

Bexar County—Houston Oil Co., Houston, J. H. Matthey 1, D. Losoya sur, 50 ft W of Road 500 ft to Road intersection. Helvetia Oil Co., San Antonio, S. S. Smith 26, Nos. 266 and 272 sur, 200 ft to E.

Bell County—Robert R. Penn, American Ex. Bank Bldg., Dallas, J. F. Williams 2, J. D. S. Anches sur, 150 ft to SW and 400 ft to SE line.

Brazos County—J. A. Germany, Dallas, C. C. Vick 1, Z. Phillips sur, 150 ft SE and 1200 ft to SW lines.

Brazoria County—Rycade Oil Corp., P. O. Box 1817, Houston, B. Wisdom 9, H. N. Cleveland sur, 3577 ft to E and 2500 ft to S lines.

Callahan County — R. Reed, Pettit, Schock, Cisco, G. Biggerstaff 1, S 305, SP Ry sur, 150 ft to S and W lines. Moutray Oil Co., 2042 N 3rd St., Abilene, A. Hickman 4, S 149, BBB &C sur, NW cor of sec; J. A. Flores 2, S 149 same sur, 440 ft W of No. 1, T. B. Slick, Oklahoma City, Okla., B. B. Bond 1, W. G. Anderson sur, NW cor equal distance from N and E lines. Wilbanks & Jenkins, Putnam, W. A. Ramsey 5, TE&L sur No. 2282, 450 ft to N and 1050 ft to W lines. Warren-Hayes Oil Corp., Cisco, N. C. Ramsey 2B, S 3158, TE&L sur, 300 ft E of No. 1. H. L. Stock, Cisco, J. L. Woods 1, S 2276, B N½ SW¼ TE&L sur, 150 ft to W and Midway to N and S lines. Dixie Drilling Co., F & M Bank Bldg., Fort Worth, H. W. Ross 1, S 110, BBB & C sur, 2230 ft to W and 184 ft to S lines. T. E. Davis et al, Vernon, A. J. Olson 13, S 3, GC&SF sur, 1st location N of No. 12. Brown & Co., Inc., Cisco, M. L. Long 4, W. G. Anderson sur, 420 ft from E line of No. 1, from N and S lines. W. B. Flynn, Beaumont, A. H. Wagley 7, S 2729, 300 ft SE of No. 6. Shackelford Oil Co., Putnam, M. Thompson 1A, B 2270, TE&L sur, 450 ft to W and 150 ft to S line. Andrew Wylie, Putnam, S. S. Ditler 1, S 52, D&D sur, Asylum sur, 150 ft to E and 450 ft to N line. S. R. Dutton, Box 233, Putnam, E. M. Cathey 8, S 9, B O H sur, 660 ft to N and S lines. W. R. Andrews et al, Putnam, R. D. Williams 66, 2973 TE&L sur, 1140 ft to W and N lines. G. S. Curry et al, Pioneer, W. M. Isenhour 3, S 2, B O H sur, 30 ft E of No. 7. Geo. R. McManis, Breckenridge, J. C. Dyer B1, S 2989, TE&L sur, 150 ft to S and W lines. Mississippi Valley Oil & Gas Co., F & M Bank Bldg., C. C. & R. H. Seale 1, S 12, B S, T&P sur, 650 ft to E and S lines. T. G. Shaw, Interests, Fort Worth, J. E. Newman 2, S 8, D & D Asylum sur, 450 ft to W 300 ft to S lines. Prairie Oil & Gas Co., Ranger, J. C. Baum 3, S 90, CCSL sur, 300 ft N of No. 2.

Coleman County—J. W. Moore & F. H. Fuhrman, Brownwood, J. J. Andrews 1, C. B. Bannister No. 626 sur, 150 ft to S and W lines. N. S. Chamock, Cisco, W. R. Roberts 5, S 163, Wm. Mason sur, 1950 ft to E and 750 ft NE to well. Westheimer & Daube, Ardmore, Oklahoma, F. W. Taylor 1, S 74, BGH&H sur, 330 ft to E and S lines. Monroe Prod. Co., Box 446, Coleman, W. B. Brown 1, S 496, WC SL sur, 2100 ft to W and 1000 ft to N lines. Archie Shaw, Burkett, W. T. Burns 14, A. Wickson 168, 2250 ft to N and 1650 ft to E lines.

Clay County—British American Oil Prod. Co., Wichita Falls, Enterprise 1, NE¼ B 60, P C S L sur, 150 ft to E and N lines. P. F. Gwynn, City Nat'l Bk. Bldg., Wichita Falls, Saner 1, B 40, C. L. Pratt Lds. sur, 1501 ft to N and E lines. H. C. Dean et al, Wichita Falls, C. Dean 1, S 37, J. Duncan sur, 200 ft to E and 700 ft to S lines.

Caldwell County—Magnolia Pet. Co., Dallas, W. F. Mercer 11, M. Caldwell sur, 300 ft E of No. 10; 7, J. Berry sur, 600 ft SE of No. 3.

Chambers County—Humble Oil & Ref. Co., Houston, Myers Fee 4, W. Bloodgood sur, 50 ft to S and 545 ft to E line. Mills Bennett Prod. Co., Houston, Kirby Pet. Co. 4, H. Griffith sur, 675 ft to W and 75 ft to S line.

Cooke County—John W. Hooser, Thomas Bldg., A. Hyman 6, T. J. Moss sur, 300 ft S of No. 5; J. A. Dennis 7A, T. J. Moss sur, 150 ft to S and W lines; 4A, same sur, 300 ft W of No. 3; H. L. Dennis 1, J. B. McClyman sur, 150 ft to N and 523 ft to W lines.

Crockett County—J. D. Young, Big Lake, J. M. Shannon 1, S 4, B 10, GC&SRR sur, 500 ft to E and 100 ft to S lines. Cranfill Bros. Oil Co., Dallas, Harris Bros. 1, S 4, B 3, W. C. Ry Lds. sur, center of NE¼ of sec 4.

Crane County—Independent Oil & Gas Co., Fort Worth, L. Taylor 9, S 6, H. T. Sapp sur, 330 ft to E and 660 ft to E to No. 1.

Dickens County—Moutray Oil Co., Abilene, T. H. Blackwell 1, S 401, B 1, H&GN sur, 1320 ft to S and E lines

Eastland County—Texas Fidelity Oil Corp., Fort Worth, N. Walker 1, W. Hickman sur, 150 ft to N and W lines; N. Walker 1, same sur. Humble Oil & Ref. Co., Box 400, Cisco, M. B. Martin 1, S 48, B 2, H&TC sur, 660 ft to S and 330 ft to E line. Arab Gas Corp., Eastland, J. A. Beard 1, S 10, B 4, H&TC sur, 850 ft to W and 600 ft to S line. Thomas & Reynolds, Fort Worth, J. L. Noble 1, S 8, B 3, H&TC sur, 300 ft to N and 375 ft to W line. J. Elmer Thomas et al, Fort Worth, McAlister 1, S 16, B 3, H&TC sur, 330 ft S and W of NE cor of SE¼ of sec. J. B. Gordan, Cisco, W. H. Hughes 1, S 17, B 2, ET Ry sur, 1170 ft W and S lines. Cow Boy Evans, P. O. Box 446, Cisco, J. M. Roach 1, S 12, B 3, BBB&CRR sur 150 ft to S and W lines.

Falls County—W. L. Forbes, Kosse, W. E. Kyser 1, M. Sessum sur, 300 ft to Creek and 500 ft to W line.

Gray County — Humble Oil & Ref. Co., Amarillo, Worley & Reynolds 6, S 83, B 3, I&GN sur, 389 ft to W and 1583 ft to S line; 5, same sur, 271 ft to W and 1028 ft to S line; H. H. Merton 5, S 87, B 3, same sur, 661 ft E of No. 3. Finklea Wier & Kribs, 16 Fuqua Bldg., Amarillo, B. F. Talley 1, S 114, B M2, H&GN sur, 300 ft to W and S lines.

Goliad County—Houston Oil Co. of Texas, Houston, L. L. Parks 2, M. J. N. Barbo sur, 1000 ft S to S. A. River 5650 ft W to line.

Hutchinson County—McIlroy Oil Co., Inc., Amarillo, E. Cockrell 1A, S 4, B 3, 330 ft to N and E lines. Phillips Pet. Co., Bartlesville, Okla., J. J. Gorden 7, S 21, B Y, A&B sur, 676 ft W of No. 5; 4, S 5, M. Whitley sur, 330 ft to E and S lines; W. T. Coble 21, S 13, B Y, M&C sur, 622 ft W of No. 18; 22, same sur, 330 ft to S and 1665 ft to W lines. Pure Oil Co., Mexia, E. B. Johnson 2, S 70, B 46, H&TC sur, 330 ft to E and N lines. F. E. Kistler Co., Box 388, Whittenburg, Johnson Bros. 1, S 21, B Y, M&C sur, 660 ft N of No. 2; 2, same sur 330 ft to E and S lines. Japhet Prod. Co., Box 146, Borger, H. E. Smith 6, S 11, B Y, 330 ft to W and S lines; 5, same sur, 365 ft to N and 330 ft to W lines; Tri-Angle Oil Co., Box 963, Amarillo, H. E. Smith 4, S 5, Y. M. & C. sur, 330 ft to S and 250 ft to W line.

Hardin County — Humphreys Corp., Mason Bldg. Houston, Bashara 5, P. S. Griffith sur, 157 ft to W and 25 ft to S line; O. Kelly 2, same sur, 35 ft to W and 170 ft to S line; Bashara 4, same sur, 50 ft to N and W lines; Bashara 1, same sur, 25 ft to N and 317 ft to W line; Gieseke 1, R. Rodgers sur, 100 ft to W and 50 ft to S line. Yount-Lee Oil Co., Beaumont, Fee-Lyn 3, S. Jackson sur, 59 ft to S and 44 ft to E line. Rio Bravo Oil Co., SP Bldg., Houston, Fee J11, C. F. S. Jordit sur, 230 ft W 242 ft. J. F. Bashara, Keystone Bldg., Houston, J. F. Bashara 2, S. Jackson sur, B 7 and 8, 35 ft to W line with No. 1; 3, same sur, 35 ft to E and NE of No. 1. Humble Oil & Ref. Co., Cisco, Hardin County 34, S. Jackson sur, 105 ft to S and 328 ft to E line.

Harris County—W. F. Martin, Trustee, Humble, M. Butler 11, J. B. Jones sur, N cor of lot No. 3. Keen & Woolf Oil Co., Houston, Schilling 9, Wm. Scott sur, 30 ft to W and 60 ft to S line. Geo. Harris, Trustee, 914 Lamas Ave., Houson, B. Cortez 2, J. Strang sur, 275 ft to N and W lines.

Harrison County — H. C. Morris, Box 98, Bastrop, La., P. Anderson 28, W. H. Adams sur, 200 ft to S and 50 ft to E line. J. Woodley & O. G. Collins, Liddens Ld. Bldg., Shreveport, La., J. L. Woodley 1, B. J. Woodley sur, 39 degrees SW, 43 ft to brickyard.

Howard County—Magnolia Pet. Co., Dallas, G. O. Chalk 4, S 114, B 29, W and NW 150 ft N of No. 2. Marland Oil Co. of Texas, McCamey, G. O. Chalk 3, S 113, B 29, Waco and NWRR sur, 660 ft W of No. 1.

Jim Hogg County—Simms Oil Co., Dallas, C. Palacious 14, B B, S. C. Hendricks sur, 300 ft W of No. 13. Magnolia Pet. Co., Dallas, B. De La Garza 12, S 6, B 291, S. C. Hendricks sur, 150 ft to NE and 300 ft SE of line. Humble Oil & Ref. Co., Houston, Vela 1, S 5, B 5, T&NO sur, 660 ft to N and 150 ft to E line. Magnolia Pet. Co., Dallas, K. Martinez 15, No. 276 sur, 300 ft SW of No. 10; 16B, same sur, 300 ft SW of No. 13. E. L. Smith Oil Co., Inc., Mexia, C. Palacious 9, 1383 S. C. Hendricks sur, 300 ft W of No. 5.

Jefferson County—Deep Sand Oil Co., Burt Gladys City 4, J. A. Veatch sur. Unity Oil Co., Beaumont, McFaddin 90, P. Humphreys 320 ft NW of 89. Yount-Lee Oil Co., Beaumont, Y-L Fee 10, B 5, Douthitt sur, 299 ft to S and 856 ft to W lines; 11, same sur, 50 ft to S and 680 ft to W lines. Atlantic Oil Co., Houston, N. McLean 9, P. Humphreys sur, 200 ft SW of No. 8. Yount-Lee Oil Co., Beaumont, Y-L Fee 10, B 5, Douthitt sur, 299 ft to S and 856 ft to W lines; 11, same sur, 50 ft to S and 680 ft to W line; Gladys City 12, B 12, J. A. Veatch sur, 15 ft to W and 509 ft to S line; McFaddin 14, P. Humphreys sur, 176 ft to N and 1278 ft to E line; Davis 3, J. A. Veatch sur, 223 to S and 330 ft to W line; Gladys City 11, same sur, 96 ft S and 28 ft W of SE cor of B 102.

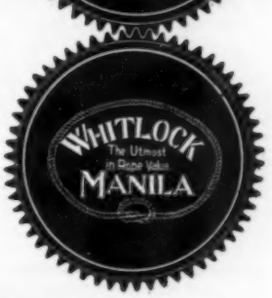
Jones County—W. F. Arnold, Stamford, J. A. J. Reves 1, S 164, BBB&C sur, 660 ft to E and S lines.

Kaufman County — John W. Caldwell et al Wichita Falls, Haynie Bros. 1, E. Higdon sur, 150 ft to N and E lines.

Limestone County—W. Killian & D. Phillips, Mexia, O. Montgomery 1, R. J. McAdoo sur, 150 ft to E and S lines. Pure Oil Co., Mexia, L. W. Rogers 20, P. Varela sur, 353 ft SE of No. 7 and 150 ft to SW line. Transcontinental Oil Co., Mexia, A. Medlock 1, C. B. Bannister No. 626 sur, 400 ft N of No. 3.

Liberty County—Gulf Prod. Co., Houston, D. Hannah 19, J. Devore sur, 100 ft W of No. 18, Phoenix Dev. 62, same sur, 1162 ft W of NE cor 452 ft S of N line. Republic Prod. Co., Houston, Dolbear 139, J. Devore bliss sur, 319 ft W of No. 1.

Montague County—Pure Oil Co., Mexia J. W. Maddox 1, J. Chambliss sur, 542 ft to E and 200 ft to S line. Texhoma Oil & Ref Co., Wichita Falls, J. W. Rowland 10, J. Chambliss sur, 150 ft to S and 534 ft to E line; E.



Economical Reid Powers

ONE of the functions of our engineering department is to cooperate with you in determining the exact cost of installing the Reid Power and supplementary equipment best adapted to your wells, and the cost of operating this power as compared with the combined cost of independent pumping units.

This engineering service is absolutely thorough and impartial. If the figures show, as they usually do, that a Reid Power would be much more economical, installation will be made by our engineering department if desired.

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FRICK-REID SUPPLY Co

TULSA, OKLA.--- PITTSBURGH, PA.

In Oil Field Equipment—the most HUMAN organization in America

J. Bouldin A4, same sur, 300 ft N of No. 2; J. W. Rowland B1, S 105, E. Votaus sur, 150 ft to S and W lines; N. J. Howard B1, J. Chambliss sur, 150 ft to E and S lines. Newblock Oil Co., of Texas, Bristow, Okla., J. W. Maddox 6, J. Chambliss sur, 250 ft to N and 200 ft to E line. Humble Oil & Ref. Co., Wichita Falls, J. W. Maddox 8, G. W. Thompson sur, 364 ft S of No. 7. F. H. E. Oil Co., Nocona, N. J. Howard B2 J. Chambliss sur, 139 ft W of No. 1.

Milam County—H. A. Smith, Rockdale, B and J. Lowerstein 1, Wm. Allen sur, 150 ft to NW and midway of line. Fritz Fuchs, Taylor, M. Seidle 3, T. S. Arnett sur, 160 ft to E and N lines. Triangle Oil & Gas Co., Rockdale, H. T. Coulter 5, T. S. Arnett sur, 155 ft to E and 150 ft to N line. Jennings Oil Co., Yoakum, L. Ehlers 1, T. S. Arnett sur, 150 ft to N and W lines. Wahpoo Oil Co., Rockdale, J. C. Gross 9, T. J. Chambers sur, 350 ft NW of No. 8 and 150 ft to NE line. Fifer Caudle, Rockdale, O. F. Luetge 2, T. J. Chambers sur, 300 ft NW of No. 1 and 150 ft to NE line. Coffield & Hale, Rockdale, O. A. Dees 1, T. S. Arnett sur, 150 ft to S and W lines. W. A. Jones, Minerva, T. Phillips 6, T. J. Chambers sur, 325 ft NE of No. 1. Bowman Oil Co., Rockdale, W. E. Gaither 8, 300 ft S of well.

Medina County—Schermerhorn Oil Co., Cosden Bldg., Tulsa, Okla., San A. Trust 4, J. Degant No. 31 sur, 150 ft to W and opposite P. Jugman No. 1.

Menard County—Elliott Chandler & Lewis, Menard, J. White 1, sur 8, 1320 ft to S and N lines.

Mitchell County — California Co., Colorado, J. D. Petitfils 3, S 14, B 28, T&P sur, 330 ft to N and W lines; W. R. Womack 7, S 11, B 28, T&P sur, 330 ft to N and W lines; Morrison 17, S 27, B 28, same sur, 660 ft S of No. 13.

Navarro County — Reiter Foster Oil Corp., Mexia, D. S. Owens 1, W. H. Stone sur, 2000 ft to NW and 150 ft to NE line.

Orange County — E. W. Ogden, Agent, Orange, W. H. Stark 1, W. H. Stark sur, 804 ft to NE and 1300 ft to SW line.

Palo Pinto County — Nelson Oil Syndicate, Gordon, F. S. Pitman 1, T. Reed 640 Acre sur, 400 ft to N and 900 ft to W line.

Panola County—The Texas Co., Shreveport, La., H. L. Brumble 3, E. F. Mitcheson sur, 275 ft to S and 330 ft to E line.

Pecos County—J. G. Buell & W. B. Hagan, 703 Frost National Bk. Bldg., San Antonio, So. W. Life Ins. 1, S 89, B O W G C&SF RR sur, 1320 ft to E and 660 ft to N line.

Reeves County—World Oil Co., Fort Worth, B. T. Biggs 1, S 65, B 112, W. N. Holder sur, 1470 ft to E and S lines.

Refugio County—Houston Oil Co., of Texas, Houston, F. Heard 7, Refugio T. Tract, 500 ft to N and 1552 ft to W line.

Shackelford County—T. K. Simmons & N. M. Smith, Cisco, B. C. Harvey 1, S 6, B 14, T&P sur, 660 ft from N and W lines of SW¼. Home Oil & Gas Co., Inc., Albany, F. Teschber 1, B 536, TE&L sur, 150 ft to SE and SW lines; M. Huber 1, S 531, same sur, 150 ft to NW and 750 ft to NE line. Roese & Pendleton, Fort Worth, W. I. Cook B4, S 61, ET Ry sur, 500 ft to W and S lines; B19, S 85, same sur, 150 ft to W and S lines; A18, same sur, 150 ft to E and 450 ft to S line; A17, same sur, 150 ft to S and 450 ft to E line; A30, S 84, same sur, 150 ft to W and 450 ft to S line; A29, same sur, 150 ft to S and E lines; B 8, S 60, same sur, 150 ft to S and 450 ft to W line; B7, S 60, same sur, 150 ft to S and 450 ft to E line; A2, same sur, 150 ft to N and 450 ft to W line; A32, S 84, same sur, 150 ft to E and 450 ft to S line; A31, same sur, 450 ft to E and N lines. The Humble Oil & Ref. Co., Cisco, W. I. Cook 13, S 84, ET Ry sur, 150 ft to N and 1350 ft to E line. A. R. Forster et al, Albany, W. A. Carter 1, S 70, Lun. A. Lds. sur, 150 ft to N and 450 ft to W line. Magnolia Pet. Co., Dallas, F. R. Midkiff 2, S 45, L. A. Lands sur, 505 ft to N and 317 ft to W line. St. Marys Oil Co., St. Marys, West Virginia, J. J. English 12, S 32, Univ. Lands sur, 350 ft E of No. 11. Sun Oil Co., Box 953, Dallas, G. L. Donnell 4, TE&L sur No. 1212, 300 ft to NE and NW lines. J. P. Booles et al, Cisco, L. C. Huskey 1, S 548, TE&L sur, 1050 ft to NE and 450 ft to NW lines. Milham Corp. of Texas, San Antonio, Z. W. Casey 13, S 581, TE&L sur, 300 ft SW of No. 6. T. G. Shaw, Interests, Fort Worth, V. M. Fomby 11, S 69, Orphan Asy. sur, 300 ft W of No. 7. J. L. Terry 6, S 45, Lun. Asy. sur, 730 ft to N and 250 ft to W line. St. Marys Oil & Gas Co., St. Marys, W. Va., J. H. Terrell 5, S 32, Univ. Lands sur, 300 ft N of No. 4. W. L. Pearson et al, Corpus Christi, (San Patricio for Cage) J. B. Cage 1, D. C. Rachal sur, 1489 ft to N and 200 ft to W line. Halmack Oil Co., Dallas, G. E. Reynolds 1, S 11, B 11, sur 11, midway between center and W side. C. C. Cady, Agent, Moran, R. E. Burns 2, S 68, L A L sur, 450 ft to N and W lines.

Starr County—Simms Oil Co., Dallas, M. R. Garza 1, Share 38, B 6, Porciones sur, 825 ft to N and 175 ft to W line.

Sabine County—The Texas Co., Shreveport, La., L. S. Bell 1, D. McDonald sur, 4900 ft to NW then 6750 ft to NW cor.

Stephens County — Mid-Kansas Oil & Gas Co., Tulsa, Okla., I. W. Kirkland 4, S 14, B 2, SP Ry sur, 2580 ft to S and 350 ft to E line.

Throckmorton County—Humble Oil & Ref. Co., Cisco, T. S. Richards 1, B 9, A. J. Morgan sur, 350 ft from S and W lines; J. A. Mathews 1, T. Mounts sur A 228, 150 ft to N and 6000 ft NE of SW cor; W. A. Bowman 1, S 2358, TE&L sur, 150 ft to N and E lines.

Tom Green County—Marland Oil Corp., Big Lake, J. E. Sorrell 1, S 265, C. Mann sur, 357 varas to E and 450 varas to N line.

Upton County — Dixie Oil Co., Shreveport, La., E. S. Hughes 7, S 4, Wm. Teer H&TC sur, 1329 ft to E and 330 ft to SW line. Roxana Pet. Corp., St. Louis, Missouri, D. Bowen 3, S 6, G C S F sur, 822 ft to S and 330 ft to W line. Gulf Prod. Co., Fort Worth, McElroy 4, S 198, CCSP&GNGRR sur, 330 ft to S and W lines. McMan Oil & Gas Co., Tulsa, Okla., M. L. Baker 1, S 8, B-P, E. C. Grooms sur, 330 ft to S and E lines.

Val Verde County—S. A. McCasky, Bevedum Trees Bldg., Pittsburgh, Pa., R. Sellers 1, S 1031, B A, I&GN sur, 3200 ft W from Devils R., S 2700 ft. Transcontinental Oil Co., Tulsa, Okla., W. S. Stephenson 1, S 8, B4, I&GN sur, 300 ft to E and 2200 ft to S.

Wichita County — R. R. Clark & W. K. Campbell, Wichita Falls, R. R. Clark B 14, GCSF sur, 150 ft to N and E lines; 4C, Lot 6, same sur, 150 ft to E and S lines; 5C, Lot 10, same sur, 150 ft to E and S lines; 6C, Lot 9, same sur, 150 ft to E and S lines. Magnolia Pet. Co., Dallas, C. M. Putnam 8, H&GN sur, 600 ft W of No. 11; S. S. Fassett 3, D. Ld and Cattle Co. sur, 300 ft E of No. 1. J. M. Hemby, Electra, B. B. Cochran 2, S 14, H&GN sur, 150 ft to S and E lines; 3, same sur, 40 ft W of No. 2; 5, S same sur, 200 ft to W and midway to line; 4, same sur, 500 ft to E of No. 2; 5, same sur, 200 ft to E and in WC part of sec. The Texas Co., Prod. Dept., Electra, Wagonner 313, S 13, B A-137, H&TB sur, 660 ft N from No. 9, right angle 330 ft. Moran & Fitzgerald, Wichita Falls J. L. Swanner 1, B 3, McCool sur, 150 ft to S and E line. Bridewell & Heydrick Oil Co., Wichita Falls, W. C. Witcher 9, B 13, AB&M&GC&SF sur, 762 ft to W and 150 ft to N line; 10, same sur, 300 ft E of No. 9. Homer Lee, Wichita Falls, J & J Weibener 16, BBB&C sur, 300 ft E of No. 15, 17, same sur, 300 ft E of No. 10. Dowry Oil Corp., Wichita Falls, T. L. Burnett 6, S 2, J. F. Torrey sur, 450 ft to W and 150 ft to N line. Sooner Oil Association, Wichita Falls, O. L. Clark 13, S. Anderson sur, 300 ft N of No. 10. Simms Oil Co., Dallas, W. H. Chilson 2, B 3, D C S L sur, 300 ft E of No. 1. Keener Oil & Gas Co. of Texas, Tulsa, Okla., T. Burnett 27, S 5, H&TB sur, 1908 ft to S and 25 ft N of No. 7. Ryan Cons. Pet. Corp., Bartlesville, Okla., G. Nance 83, S. O. Fowler sur, 1530 ft to SW and 2920 ft to NW line. Wm. P. Oldom, Iowa Park, Kempner 9, B 48, Kempner sur, 200 ft to N and 150 ft to E line. Texhoma Oil & Ref. Co., Wichita Falls, A. Burnsides 1, J. M. Sharp sur A 262, 150 ft to N and W lines. Gulf Prod. Co., Fort Worth, G. Jennings 19, S 11, HT&B sur, 1035 ft to E and 400 ft N of No. 16. R. P. Clark & W. K. Campbell, Brown Bldg., Wichita Falls, Clark 1C, B 14, GCSF sur, 150 ft to N and W lines. Wayne H. Hammon, Wichita Falls, A. M. Brockried 1, B 876, MEP&P Ry sur, 150 ft to S and W lines. J. W. Williams, Perkins Snider Bldg., Wichita Falls, E. Horton 1, BBB &C Ry sur, 150 ft to S and W lines. Coppock & Coleman, Box 405, Iowa Park, Kempner 1, B 82, HT&B sur A 139, 150 ft to S and W lines; 2, 450 ft to W and 150 ft to S lines. G. B. Ray, Art & Consolidated Oil Co., of Texas, Wichita Falls, Cohen & Sawyer 1, B 329, R. M. High sur, 150 ft to S and 750 ft to W line.

Webb County—Ruthada Oil Co., Box 240, Ardmore, Okla., Bruni 7, B 18, A. D. Arriba sur, 498 ft N of No. 5; 6, same sur, 451 ft S of No. 5. O. A. Topham, Los Angeles, Calif., T. Garcia 1, B C, 2084 sur, 150 ft to E and S lines. Murchison & Fain Oil Co., San Antonio, Garcia 1, J. W. Littig No. 59 sur, 1189 ft to W and 450 ft to N line; Ping 1, B67, A. De Arriba sur, 150 ft to W and S line. Sun Oil Co., Dallas, A.M.Bruni 6, Albercas sur, 150 ft to S and 550 ft to E line. Alonso, Jr., Oil Co. Laredo, Garcia 7, sur 605, 600 ft W of No. 3.

Wilbarger County—Tulsa Oil Co. Wichita Falls, F. P. Yarbrough 27, S 29, F. P. Yarbrough sur, 700 ft SE of No. 6. Texhoma Oil & Ref. Co., Wichita Falls, C. Zipperle 7, S 80, B 14, H&TC sur, 250 ft S of No. 4. Milham Corp. of Texas, San Antonio, Waggoner 2C, S 48 and 57, B 4, H&TC sur, 450 ft to E and 150 ft to N line.

Wharton County—Weed-Gayle Oil Co., Beaumont, W. H. Kellar 3, Lot 2, Mo. Land Co. sur, 300 ft to E and 65 ft to S line.

Wheeler County — Hill & Riley, Amarillo, J. M. Porter 1, S 61, B 24, H&GN sur, 300 ft to W and S lines. The Texas Co., Box 983, Wichita Falls, N. Smith 1, S 40, B 2, H&GN sur, 330 ft to N and 1667 ft to E line.

Williamson County—Fritz Fuchs, Taylor, F. Fuchs 1, W. Cortwright sur, 450 ft to E and 160 ft to N line. Navarro Oil Co., Houston, O. M. Breeder 1, M. Dabilla sur, 150 ft to SE and 10157 ft to SW line.

Young County—Texas Co., Wichita Falls, G. P. Stewart 2, D. Dawson sur, 150 ft to N and E lines; N. Prideaux 1, I&GN sur, 150 ft to S and E lines; O. W. Mathews 1, A. Rohus sur, 150 ft to N and W lines. Robert Oil Corp., Breckenridge, E. Rogers 15, S 166, TE &L sur, 300 ft NE of No. 14; G. P. Stewart 6, D. Dawson sur, 300 ft E of No. 4, WO-Mac Oil Co., Wichita Falls, G. P. Stewart 5, D. Dawson sur, 300 ft E of No. 4; 6, same sur, 300 ft NE of No. 5. Peery-Moran & Woody, Wichita Falls, G. P. Stewart 1, D. Dawson sur, 315 ft SE to Wo-Mac No. 4, J. W. Collier, Markley, J. W. Collier 5, S 21, Y C S L sur, 1170 ft to S and 750 ft to W line. Camp Oil & Gas Co., Wichita Falls, S. M. J. Benson 1, TE&L sur, 150 ft to N and W lines. Simms Oil Co., Dallas, T. J. Routon 3, B 181, TE&L sur, 312 ft N of No. 2. Lucas & Nance, 188 South Bend, J. N. Boozer 1, J. Garrett sur, 150 ft to E and S lines. Roy I. Carter, Wichita Falls, S. M. J. Benson 12B, B 1450, TE&L sur, 300 ft N of No. 9. Pandem Oil Corp., Wichita Falls, T. L. Whitehead 7, S 166, TE&L sur, 300 ft E of No. 6. Chenault, Palmer & Burch, Wichita Falls, R. Raching 8, S 4, BBB&C sur, 300 ft S of No. 6. E. B. Maddin, Olney, Benson 7, B 1451, TE&L sur, 300 ft N of No. 6. Murchison & Fain Oil Co., Wichita Falls, R. Campbell E4, B 1371, TE&L sur, 150 ft to S and 750 ft to W line. Wichita Prod. Co., Wichita Falls, G. M. Boren 9, R. D. Newman sur, 300 ft S of No. 7. A. L. Laurie, Roselyn Hotel, Graham, W. F. Brown 3, Tynes sur, 150 ft to E and S lines. Bridewell & Mayfield, Wichita Falls, A. Williams 5, S 26, Y C S Lands sur, 860 ft to S and 1582 ft to E line. A. C. Walker et al, Wichita Falls, S. M. J. Benson 3A, S 1391, TE&L sur, 300 ft E of No. 2. Bloodworth-Kerbow, Graham, W. C. Montgomery 1, S. Tynes sur, 150 ft to E and S lines.

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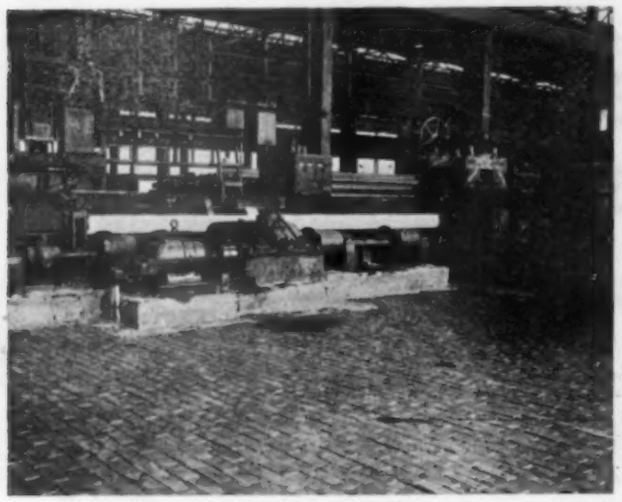
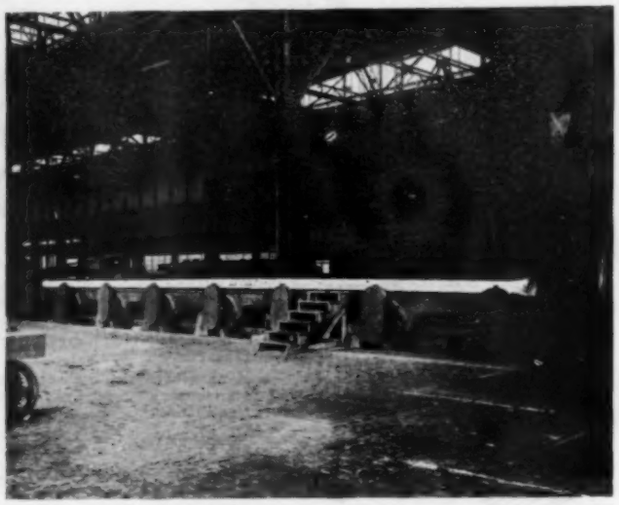


Number 13 Tube leaving sizing machine at plant of the Pittsburgh Steel Products Company.



Number 8 Tube leaving Pilger Mill at plant of the Pittsburgh Steel Products Company.

Pittsburgh Steel Has New Modern Tubular Mill

Pittsburgh, Pa. — Pittsburgh Steel Products Company, one of the foremost steel manufacturing concerns of America, has recently put into operation a new mill here which gives the company much additional capacity and facilitates greatly the manufacturing processes.

This new mill is of the Mannesman Pilger type and is said to be the first of its kind in America. Many new features of steel manufacturing plants are incorporated and the company feels that it is the latest word in establishments of its kind.

One of the advanced developments in large tube manufacture which is a feature of this mill is the fact that it will successfuly pierce a cast ingot, thus eliminating rolling processes between the ingot mold and the piercing mill. The ingots are cast in round molds of varying diameters to suit the requirements of the particular size of tube to be made. Bottom-casting of the ingots is employed exclusively.

A unique method is employed for cutting the ingots to the necessary lengths for piercing. The ingot is nicked on two sides by means of an hydraulic ram; the nicking tools are then automatically removed, and the ram, continuing forward, forces the ingot against a V shaped block and breaks it through at the nicked places. This affords an excellent opportunity for the inspection of the steel in the ingot, any piping or blow holes being readily detected and that portion of the ingot containing these defects discarded. In this way an absolutely sound blank is assured, and the importance of this feature will be appreciatexd by those who understand the severe distortion steel is subjected to in the various operations of manufacturing seamless tubing by the piercing process, and particularly in the piercing operation.

Two continuous furnaces, with bottoms inclined just sufficiently to permit the round blanks to roll towards the front end by gravity, are used for heating the blanks preparatory to piercing. Thus, as one blank is extracted at the discharge end, another rolls into its place. In this way the blanks are heated gradually and uniformly to the proper temperature. At the extreme point of discharge, the floor declines sharply, so that the blank rolls out of the furance onto a roll conveyor and thence to the feed trough of the piercing mill. Two furnaces are necessary on this mill in order to keep the piercing mill supplied with properly heated blanks, the latter being taken from the furnaces alternately. These furnaces are 70 feet long by 10 wide, and are fired with natural gas.

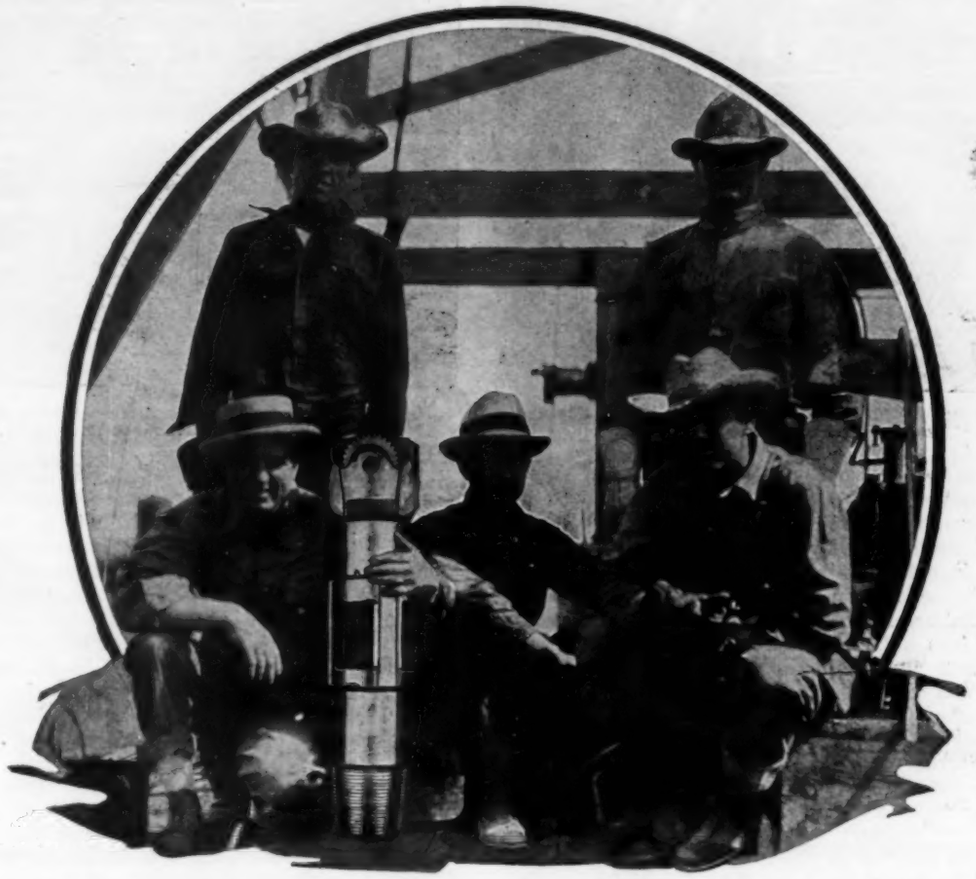
The piercing mill is of the Mannesman or roll type and is of heavy and rugged construction to stand up under the severe service entailed in piercing large ingots. This mill is driven by a 2250 horsepower motor.

Leaving the piercing mill, the pierced ingot presents the appearance of a short, rough tube, with extremely heavy walls. It now travels, without reheating, to a conveyor which places it in the trough of one of the two Pilger mills. Here it is placed on a mandrel, which consists of a long, solid round steel bar of the same diameter as it is desired to make the inside diameter of the tube. This mandrel is carried on the forward end of a plunger working in a pneumatic cylinder which in turn operates in a large hydraulic cylinder and might be likened to a cross-head. The hydraulic ram thus formed moves slowly but steadily forward through the rolls.

The Pilger mill, while having rolls with parallel axes mounted and operated the same as an ordinary rolling mill, differs from the latter in that the process is that of forging or kneading rather than rolling, as the term "rolling" is usually understood. The rolls are so designed that the pass is cut away through a part of its circumference, with the result that with each revolution, the portion not cut away strikes the tube a definite and severe blow, and due to the fact that the direction of rotation of the rolls is against the tube rather than with it, (as is the case in ordinary rolling), the tube is thrown back and cut from between the rolls.

The forging action of the rolls driving the tube backward, causes the air to compress in the pneumatic cylinder, but as the rolls revolve and again bring their cut out sections into the tube space, this compressed air forces the plunger, carrying the mandrel and tube, forward again for the next stroke of the rolls. Thus the air acts as a spring, taking up the effect of the blows but continually forcing the tube forward for the succeeding blows. A mechanical device rotates the mandrel and tube 90° between each forging blow of the rolls.

The tube thus progresses through the



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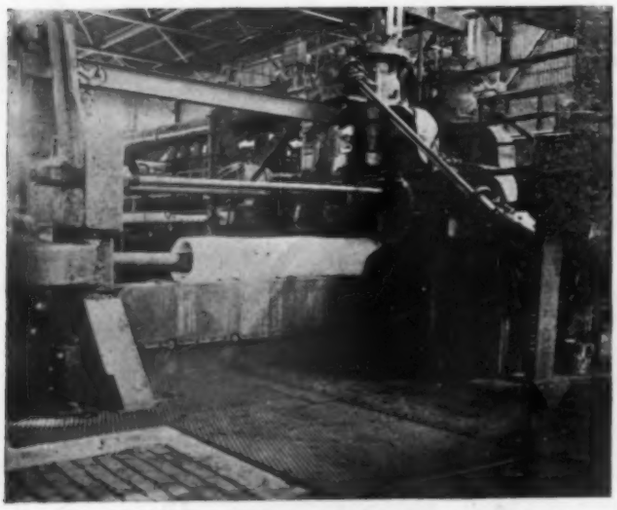
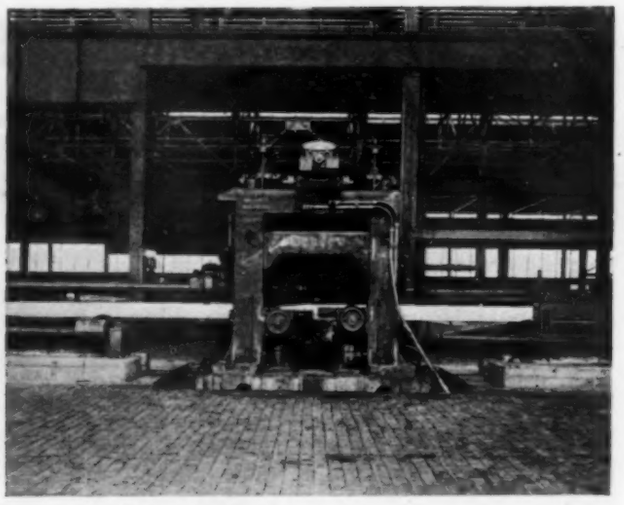


Number 5 Hollow Billet leaving piercing mill at plant of the Pittsburgh Steel Products Company.



Number 14 Tube passing through cross-rolls at the plant of the Pittsburgh Steel Products Company.

roll, coming out at the opposite side of the mill a practically finished tube, insofar as size and wall thickness are concerned. A mechanical device at the rolls is then brought into play which holds the tube stationary while the mandrel is withdrawn. The mandrel is then dropped into a tank of water to cool it off, and another mandrel is placed on the end of the plunger, ready for the next tube. Meantime the tube is conveyed beyond the rolls to a hot-saw, where the crop ends are sawed off.

It might be noted here that two Pilger or rolling mills are necessary to take care of the product of the one piercing mill on account of the longer time required to forge the tube than to pierce the ingot or roll a tube in the ordinary manner. These two mills are driven by a 2000 horsepower motor. The achievement of employing the principle of forging to a large seamless tube is a notable development, and produces the fine and uniform texture of steel that is a characteristic of forged steel.

From this point the equipment of the mill is so arranged that the tube can either be passed into a furnace, reheated and given a reeling operation, or, omitting the reheating and reeling, passed through the sizing mill and crossrolls, depending upon the nature of surface finish desired. While certain classes of tubing require a high finish, there are other classes which are to be subsequently reshaped and worked which do not require the high finish imparted by the reeling operation, so the tubes in this class can be by-passed around the reheating furnaces and reeling machine and put through the sizing mill and cross-rolls on the same heat as they come from the Pilger mill.

The reheating furnace referred to above is long enough to accommodate a tube 50 feet in length and is fired with natural gas. The tube enters it lengthwise at one side, on water cooled rollers, and then slowly rolls to the other side, during which time it is uniformly heated to the required temperature; when it reaches the opposite side it travels through the discharge door onto a conveyor which carries it to the reeling machine.

This reeling machine consists of a pair of short heavy rolls of special design set in housings, which lie side by sides, with their axes inclined slightly to the horizontal and in opposite directions, crossing each other at a corresponding angle in the middle of their length.

A mandrel is pushed into the space between the rolls and the hot tube is pushed in over the mandrel. Both rolls revolving in the same direction, start the tube and mandrel revolving also, and the tube is slowly drawn over the mandrel, leaving the mill practically straight and perfectly round, with a highly burnished surface but slightly over size. The mandrel consists of a water cooled hollow bar or tube.

The tube is then conveyed to the sizing mill, which consists of two horizontal rolls grooved to form a perfect round of the exact outside diameter of the tube desired. The tube being slightly oversize, as stated above, the sizing rolls compress and elongate it to an eact outside diameter. No mandrel is used in this operation.

The tube is then conveyed to and passes through a pair of cross-rolls for the purpose of removing any waves or kinks, and when it leaves these rolls it is commercially straight.

From the cross-rolls the tube is mechanically lifted onto a long inclined cooling table, up which it travels at a slow rate of speed by means of endless chains.

When cold the tubes are inspected and sorted, then transferred by electric cranes to various cut-off and theading machines for the finishing operations. The arrangement of this plant is such that the material is continuously moving in one direction, towards the finishing department.

The latter department is equipped with modern cut-off machines of ample size to take care of any size and quantity the mill is capable of producing, together with threading machines for pipe and couplings, straightening machines, hydrostatic test benches and other machines of special design for the finishing of the tubes.

The entire mill is driven by electrical power from a central power plant at Allenport and the electrical equipment includes 152 motors, totaling 10,000 horsepower, three generators, two exciters, and eight traveling cranes ranging form 7½ to 20 tons capacity.

The capacity of this mill is 300 tons each 24 hours, and its principal product is oil country tubular goods, although a considerable tonnage of other classes of large diameter tubing has been booked since the mill went into production.

The Pittsburgh Steel Products Company is a subsidiary of Pittsburgh Steel Company and has its own plants at Monessen, Pa., and Allenport, Pa., in the Pittsburgh district.

Bulletin on Centrifugal Pumps Issued

"A Further Investigation of the Performance of Centrifugal Pumps when Pumping Oils" is the title of a bulletin recently published by the Goulds Pumps, Inc., Seneca Falls, New York.

This bulletin is a report made by Robert L. Daugherty, A. B., M. E., professor of Mechanical and Hydraulic Engineering, California Institute of Technology.

In 1924 Mr. Daugherty made an investigation to determine the effect of viscosity and vapor pressure of the liquid handled upon the performance of the centrifugal pump.

The object of the test described in the present bulletin was to determine the effect of the size of the pump upon its operation with liquids of different viscosities, and also to see if certain changes in design would produce a centrifugal pump with relatively higher efficiencies for the more viscous oils than had been obtained with the standard water pump.

Results of the test are completely set forth in the bulletin, including numerous charts and illustrations. Copies may be obtained by writing the company.

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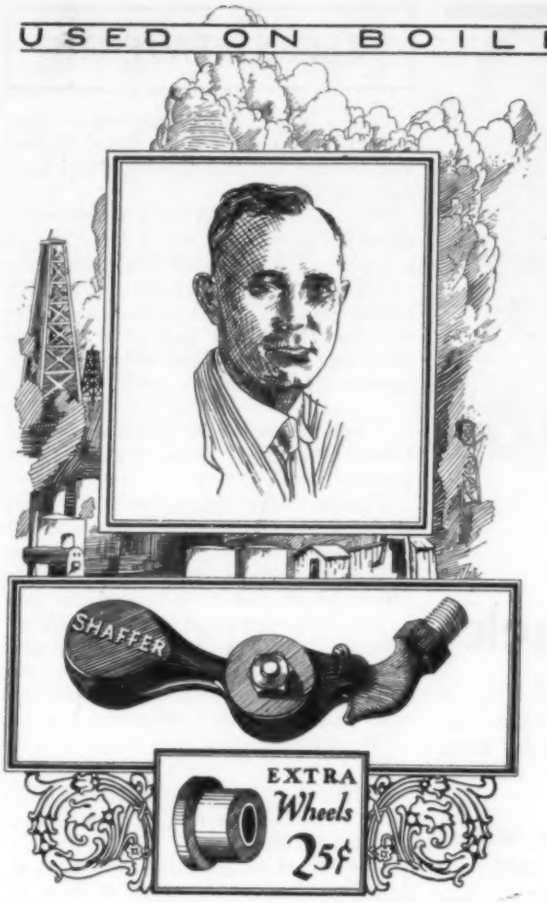

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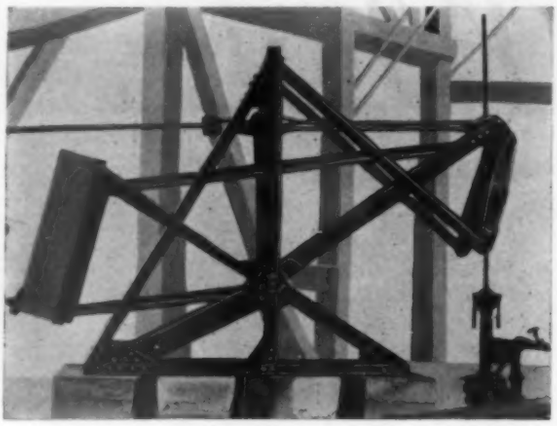

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RECENT PATENTS

Patent No. 1,594,303, granted to Clarence C. Keown, Orange Field, Texas, and George Schanz, Vinton, Louisiana, July 27, 1926.

The patent relates to oil-well apparatus the purpose of which is to provide a device which removes the probability of leakage through the bottom or back pressure valve, and also insures positive seal for the lower end of the screen after the back pressure valve has performed its function.

Patent No. 1,594,622, granted to Peter Gustaf Leonard, West Tulsa, Oklahoma, August 3, 1926.

The invention relates to rod pulling devices, especially such a device which is adapted for gripping and pulling broken sucker rods from oil wells. The object of the device is to provide such a tool with the gripping elements arranged in one integral piece, and also a means for conveniently releasing the rod from the device after the said rod and device have been drawn to the top of the ground.

Patent No. 1,594,745, granted to Albert Bonham Mueller, Runge, Texas, August 3, 1926.

The invention provides protectors especially adapted for use in shallow and deep wells, for the working or cylinder barrel and parts.

Patent No. 1,594,784, granted to Arthur Lee Ligon, Fort Stockton, Texas, August 3, 1926.

Improvements in coupling connections for pump rods are covered by this patent.

Patent No. 1,573,409, granted to Theodore L. Lynch and Luther P. Nicholson, Oxnard, California, February 16, 1926.

This invention relates to pipe and tubing tongs and wrenches, and more particularly to a device for screwing and unscrewing and disconnecting lengths of line pipe as well as tubing for deep well pumps, and has for its object to provide an improved tool, implement or device of the general character stated, which will be superior in point of relative simplicity and inexpensiveness of construction, taken in conjunction, convenience in handling, manipulation and application to and removal from the work, freedom from liability to get out of repair, and compactness in form.

Patent No. 1,573,408, granted to Herman R. Lloyd and Jack E. Reynolds, Taft, California, February 16, 1926.

A fishing tool especially designed for engaging and pulling out broken sucker rods from a well, is covered by this invention.

The prime object is to provide a sucker rod fishing tool which is efficient

and reliable in operation, easy to manipulate, strong, durable, not likely to get out of order, and inexpensive to manufacture.

Patent No. 1,564,484, granted to Eugene Kibele, San Antonio, Texas, December 8, 1925.

The invention relates to pump pistons and more particularly to the packing ring to be employed on double action pumps for forcing liquids through pipes.

Patent No. 1,567,183, granted to Rudolph Conrader, Erie, Pennsylvania, December 29, 1925.

This patent covers an invention providing a connection from a well or group of wells of a commercial line having a regulating valve at the pressure that it is desired to carry the well and a local line controlled by the regulating valve of slightly less pressure, the result being that so long as the well is producing an excess of gas, this excess will be delivered to the commercial line.

The invention provides a method of well operation that enables the maintenance of a predetermined pressure on the well, the drawing off of sufficient gas for local operation, and delivering the excess to a separate low pressure line.

Patent No. 1,567,197, granted to Benjamin F. Schmidt, Los Angeles, California, December 29, 1925.

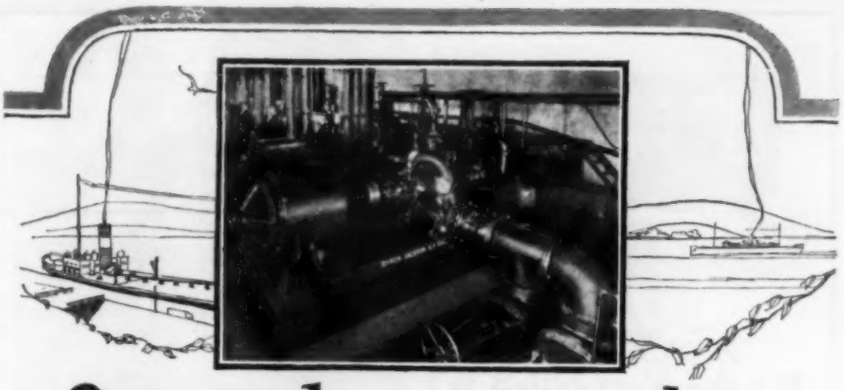
This patent provides for a device which may be suspended in a hole by a cable or other suitable means, having a vertical member to which a cutter may be attached, this vertical member being capable of reciprocation by solenoids energized by current supplied from a generator located at the surface.

Patent No. 1,567,313, granted to George A. Wilson, Huntington Beach, California, and Robert W. Edens, Los Angeles, California, December 29, 1925.

Improvement in separators used on oil and gas wells is the object of this invention. It provides a separator which will prevent oil vapors being discharged with the separated gas, provides also for the removal of the sand and water to be removed from the separator without interruption of its continuous operation. The separator has a plurality of sand and water receivers into which the sand and water settling out from the oil may be alternately directed so that one thereof may be emptied while the other is functioning to receive the separated sand and water.

Patent No. 1,567,586, granted to Frank Gardner, Dallas, Texas, December 29, 1925.

This invention aims to provide a pump jack for pumping wells which is arranged to reciprocate the polish rod and to compensate for the swing of the beam in a new and novel manner,



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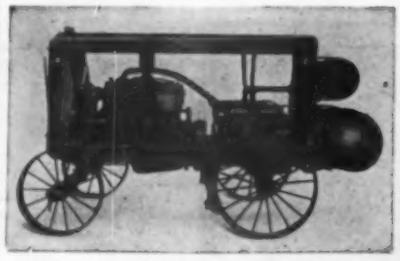

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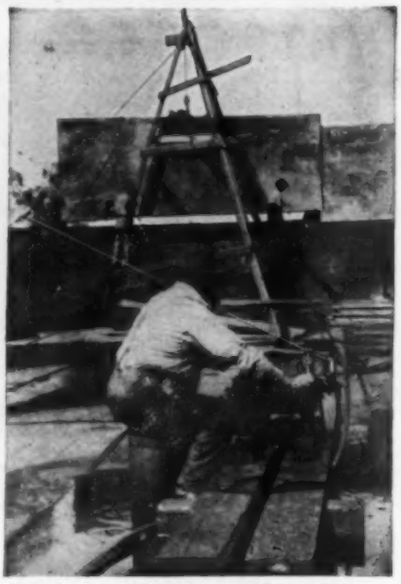

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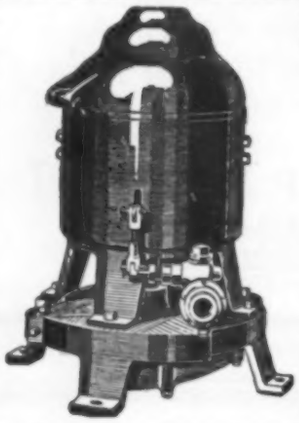

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whereby the polish rod is given a free perpendicular stroke. This stroke is accomplished by means of a toggle joint and a link cooperating with a pivoted Samson post with a pivoted beam.

Patent No. 1,567,827, granted to John A. Zublin, Los Angeles, California, December 29, 1925.

This invention relates to well pumps especially adapted for use in oil wells, and is particularly directed to a pumping apparatus in which individual pump units operating at spaced intervals throughout the depth of the well, divide the fluid column into sections or stages with a corresponding division of the total pumping effort.

Patent No. 1,568,027, granted to John C. Swan, Marietta, Ohio, December 29, 1925.

The invention relates to a method of and means for releasing, starting and recovering a string of casing from the bottom of a well or from such other point in the well at which the casing may be lodged, either by accident, unknown conditions or by design.

Patent No. 1,567,097, granted to Anton Axel Anthony, Memphis, Tennessee, December 29, 1925.

A simple means whereby a fire burning at the outlet of an oil well may be extinguished, is the object of this invention.

Patent No. 1,566,678, granted December 22, 1925, to Homer L. Latimer, Whittier, California.

The primary object of the invention is to provide a device adapted to be applied to a rotary drilling derrick for automatically lifting a stand of pipe when it has been rotated out or separated from the string of pipe extending into the well hole.

Recent Survey Will Aid Search for Oil In Arkansas and Louisiana

(Continued from page 56.)

considerable amounts of marly material. There is also massive blue-gray argillaceous sand, which contains hard calcareous sandstone lenses, and sandy gray marl. In the eastern part of its exposures the base of the Brownstown is marked by pure fine-grained cross-bedded quartz sand.

Outcrops of Brownstown

The Brownstown is from 200 to 250 feet thick in Hempstead County and farther west but thins east of Hempstead County. Good outcrops of typical Brownstown occur 0.65 mile southeast of Ben Lomond on the road to Brownstown and 4.4 miles north of Ozan on the road to Bingen.

Ozan formation.—The rocks herein designated Ozan formation consist of sandy micaceous marl, unconformably overlying the Brownstown marl as here restricted and typically exposed along the middle fork of Ozan Creek. The town of Ozan, in Hempstead County, stands on their outcrop. They were included in the Brownstown marl of Veatch, but because of their somewhat different lithology and

the unconformity at their base they are here separated as a distinct formation.

At the base of the Ozan formation in Sevier, Howard, and Hempstead Counties is a sandy marl or marly sand three to eight feet thick, containing as much as 50 per cent of coarse glauconite grains. In many outcrops it also contains thin highly polished pebbles and grains of black chert, phosphatic nodules, and locally numerous shells, phosphatic casts, and shark teeth. The coarse sand rests on an irregular surface of the calcareous clay of the Brownstown marl.

The basal glauconitic sand of the Ozan crops out a short distance north of the village of Buckrange, also one mile northeast of the village, on the road to Nashville, in Howard County, and it is therefore here named the Buckrange sand lentil of the Ozan formation. A few other typical outcrops are located 0.3 mile south of Brownstown, on the road to White Cliffs; 0.5 mile west of Tollette, in Howard County, on the road to Schaal; and 3.5 miles south of Mineral Springs, on the road to Saratoga. This Buckrange sand merges gradually upward into a micaceous, very sandy massive marl with extremely abundant small oyster shells, frequently in coquina-like layers. There is a second glauconitic sandy marl 50 feet higher statigraphically, which is exposed in Howard County. It seems to be represented in Sevier County by a glauconitic chalky marl. Both Glauconitic beds are present in Little River County. The upper part of the Ozan formation is almost uniformly massive dark sandy micaceous marl. Toward the top there are some beds of poorly bedded and cross-bedded marly sand in which the quartz grains are very fine, also a few beds of hard limestone.

The Ozan is between 150 and 250 feet thick in Hempstead County and farther west but gradually thins eastward.

The Buckrange sand lentil of the Ozan formation thins toward the east and inasmuch as the percentage of sand in the Browstown marl increases in that direction, the differentiation of the Ozan and Brownstown becomes increasingly difficult and has been only tentatively accomplished in Clark County and thence eastward.

Annona chalk.—The Annona chalk, which overlies the Ozan formation, is a massive and heavy-bedded hard white chalk that is sparingly fossiliferous. At the westernmost exposure in Arkansas, in the Rocky Comfort area, it apparently transitional at the base into the Ozan formation, but east of this locality, where the base is exposed, there is a sharp break in lithology, and borings filled with chalk extend from the base of the Annona into the underlying sandy marl. The Annona chalk of southwestern Arkansas is of Taylor age and is the equivalent of the upper part of the Annona chalk as exposed at the type locality around Clarksville, Texas.

The Annona is about 100 feet thick in Little River and Sevier Counties but thins eastward, through Howard County, and in westernmost Hempstead County, in the vicinity of Yancy, it is only two or three

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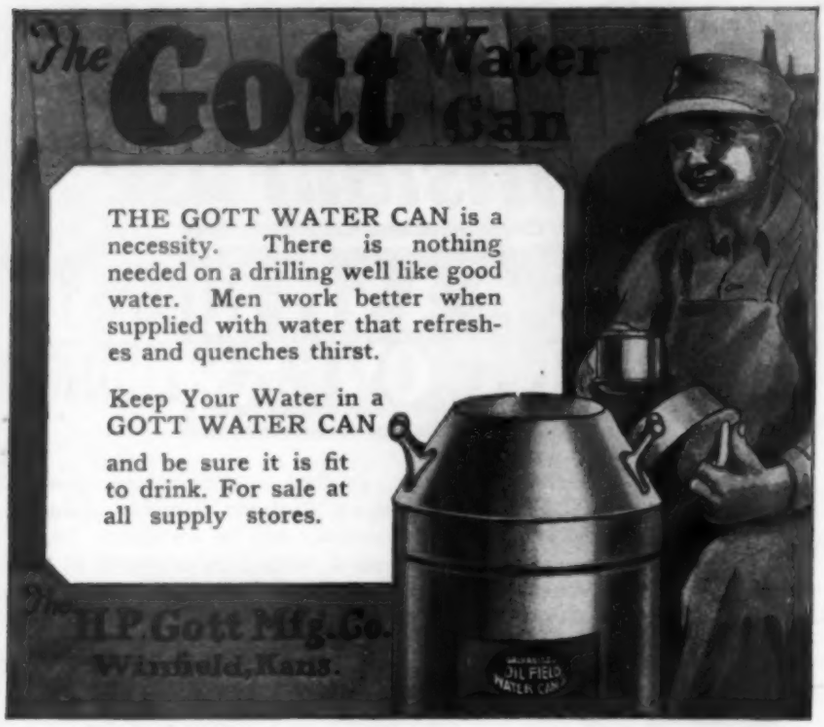
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feet thick. East of this locality it is not present in the section.

Marlbrook marl (restricted).—The Marlbrook marl as here redefined is restricted to the beds beneath the Saratoga chalk, which in previous reports has been treated as a member of the Marlbrook. The Marlbrook marl of Veatch also included the clayey beds in the lower part of the Nacatoch sand as here differentiated. The Saratoga chalk rests unconformably on the underlying marl and is therefore here treated as a distinct formation. The Marlbrook as here restricted is a strikingly uniform chalky marl, which is dark-blue when fresh and weathers deeply to a nearly white color. It is free from palpable sand and is therefore highly plastic when wet. The marl commonly occurs in thick beds but locally is massive and devoid of bedding. Toward the top it is fossiliferous and contains some coquina-like shell beds. The lower part of the Marlbrook contains some chalky layers a few feet thick and is only sparingly fossiliferous. At the base the Marlbrook is transitional into Annona chalk, in the upper part of which are shaly layers. Nevertheless the change from chalk to marl is usually rather abrupt. Where the Annona is absent and the Marlbrook rests directly on the Ozan formation there is a sharp contact and evidence of a break in sedimentation.

Related to Navarro

Some of the fossils found in the upper part of the Marlbrook marl as here restricted indicate a close faunal relationship with the Navarro of Texas, but nevertheless the Marlbrook is believed to represent a continuation of the Taylor phase of sedimentation which probably is not represented in outcrops in northeastern Texas.

The Marlbrook as here restricted is about 220 feet thick north of Saratoga, in Howard County, but gradually thins eastward to only 50 feet in eastern Clark County. It is typically exposed for a little over a mile north of Saratoga, on the road to Mineral Springs, in Howard County; along Marlbrook Creek, in T. 10 S., R. 24 W.; and 0.5 mile north of Okolona, in Clark County.

Saratoga chalk.—The Saratoga chalk, which rests unconformably on the Marlbrook marl, is a comparatively thin formation, ranging from 20 to 60 feet in thickness. It has previously been included in the Marlbrook marl, as a member, but in this paper it is treated as a separate formation because it is separated from the underlying marl by a well-exposed and persistent lithologic and faunal break. The chalk rests on an irregular surface, and its basal few inches locally contains glauconitic sand. Almost everywhere borings filled with glauconitic chalk extend down into the underlying marl. The lower few feet of the Saratoga consists of hard sandy or marly chalk with disseminated glauconite, phosphatic nodules, and casts of fossils; and contains abundant large shells. The uppermost Marlbrook is usually a pure dark-gray marl without sand which weathers light gray, but in its upper few feet there are many small iso-

lated pockets or lenses of glauconitic chalk of the same character as the borings that extend from the base of the Saratoga in the marl. The upper part of the Saratoga contains marl and clay and in eastern Clark County includes beds of chalky sand containing abundant small black macerated plant fragments. Typical outcrops of this formation are present just north of Saratoga on the road to Nashville; 1.3 miles south of Okolona on the road to Prescott; and in the SE¼ sec. 30, T. 7 S., R. 20 W., along the road from Okolona to Arkadelphia.

Nacatoch sand.—The Nacatoch sand, unconformably overlies the Saratoga chalk, is a complex unit composed of cross-bedded yellowish and gray fine-grained quartz sand; hard crystalline fossiliferous sandy limestone; coarse, richly glauconitic sand; fine argillaceous dark blue-black sand; and pure light-gray clay and marl. For some distance east of Little Deciper Creek the Nacatoch completely overlaps the Saratoga chalk and rests directly on the Marlbrook marl. The Saratoga, however, reappears from under the Nacatoch in the immediate vicinity of Arkadelphia.

Three Units

The Nacatoch formation is divisible into three lithologic units, which are continuously traceable from a point west of Washington, in Hempstead County, eastward to Dobyville, in Clark County. These three units are completely gradational one into another. The lowest consists of bedded gray clay, sandy clay, and marl; dark clayey, very fine grained sand; and harder irregular concretionary beds, and contains lenses of calcareous fossiliferous, slightly glauconitic sand. Both eastward and westward this lowest part of the Nacatoch changes laterally to fine-grained gray cross-bedded quartz sand which weathers yellowish and contains partings and pockets of gray clay. This lowest unit is estimated to be 100 feet north of Washington and is about 60 feet thick near Okolona, where it is an almost pure gray clay. The middle unit consists of a dark-greenish sand, which contains from 20 to 80 per cent of coarse glauconite grains and weathers to lighter shades of green. It is generally highly fossiliferous where strongly glauconitic. The middle unit also contains hard irregular concretionary beds cemented with calcite, and subordinate beds of dark blue-gray argillaceous massive fine-grained sand. The green sand member is approximately 50 feet thick near Washington and 40 feet thick near Okolona. East of Terre Noir Creek in Clark County, it grades into gray quartz sand which weathers yellow and locally contains small poorly preserved fossil prints and casts. It has not been traced west of Sandy Bois d'Arc Creek, in Hempstead County. There are good outcrops of this green sand member just east of the Washington railroad station and also four miles a little east of south of Okolona, in the NE¼ sec. 26, T. 9 S., R. 22 W.

The upper part of the Nacatoch is composed of unconsolidated gray fine-grained quartz sand, which weathers yellowish and reddish. Cross-bedding is commonly

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present in this sand but is obscure unless revealed by the differential weathering of thin clay partings. Locally the sand is massive and structureless and contains a few hard lenses and beds of fossiliferous sandstone, cemented by crystalline calcite; also beds of gray and white clay as much as two feet thick.

West of Washington and east of Dobyville the Nacatoch can not be divided into the three units just described, but instead it consists chiefly of sand such as is characteristic of the upper of the three units. Between Saratoga and Fulton the whole thickness of the Nacatoch apparently consists of sandy beds of uniform composition, but near Arkadelphia and for some distance west of it the lower part of the Nacatoch consists of dark-gray or greenish-gray massive argillaceous fine-grained sand, which contains scattered grains of glauconite. Distributed through this massive sand are small lenses and beds of hard dark-gary sandstone cemented by crystalline calcite. Some of these lenses contain numerous fossils; others are non-fossiliferous. Some contain pebbles of black chert and grayish-white quartz, brown and black fragments of wood, small shark teeth, slender leaf imprints, and scattered glauconite. This lithologic unit is at least 100 feet thick as exposed at High Bluff on Ouachita River, but westward it grades rapidly into yellowish sand that is only slightly argillaceous and contains only small poorly preserved fossil prints.

The Nacatoch is about 400 feet thick in western Hempstead County but thins gradually eastward to about 150 feet near Arkadelphia.

Arkadelphia marl.—The Arkadelphia marl is the uppermost formation of the Gulf series and overlies the Nacatoch sand unconformably, resting upon an irregular surface of slight relief which probably represents only a brief time break. The basal few feet of the Arkadelphia contains hard calcareous gray sandstone, lenses of fossiliferous sandy gray limestone, and gray calcareous sandy clay. The remainder of the formation consists almost exclusively of dark marly clay or marl, which weathers light gray. The marl and clay are poorly bedded or massive and in most places have a markedly conchoidal or lumpy fracture. The marl is prevailingly free from sand and contains locally a few layers of dense gray concretionary limestone or white impure chalk. The Arkadelphia characteristically contains shell fragments and Foraminifera and in some outcrops yields an abundant fauna, though locally it contains no fossils.

The Arkadelphia marl along the outcrop has a thickness of about 150 feet which decreases eastward to about 120 feet in eastern Clark County. The thicknesses shown in the diagrams have been taken from the records of water wells drilled to the Nacatoch sand near the outcrop of the contact between the Arkadelphia and the overlying Midway formation.

Tertiary Rocks

Midway formation.—The early Eocene rocks that compose the Midway formation

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are separated by a considerable unconformity from the underlying beds of the Cretaceous Gulf sereis, but the contact is not conspicuous, owing to the general lithologic similarity of the beds above and below it. In some places the basal few inches of the Midway consists of a layer composed of grains of light-gray and black phosphate, glauconite, and calcite. This layer carries small oyster-shell fragments, a few fish teeth, and Foraminifera. Elsewhere the basal few inches of the Midway consist of hard calcareous layers containing phosphatic pebbles, some glauconite, reworked Cretaceous fossils, and abundant Eocene Foraminifera. At still other places the contact is marked by irregular phosphatic nodules and casts and by lenticular pockets of glauconite scattered through a calcareous clay. The lower 30 to 50 feet of the Midway, apart from the basal layer just described, normally consists of bedded calcareous clay that weathers brownish and contains numerous Foraminifera, which are in some places so abundant as to speckle it distinctly with white spots. Locally, in a zone three to ten feet above the base of the formation, there are hard dense gray limestone beds and lenses, six inches to one foot thick, which weather yellow. These limestone beds contain numerous broken Eocene fossils, poorly preserved fossil casts, some glauconite and a few clay pellets.

The remainder of the Midway studied consists of monotonously uniform dark-gray noncalcareous clay, which on the weathered outcrop appears light brownish gray and bedded and shows an irregular and conchoidal fracture. This part of the formation is almost entirely free from sand but locally contains a few minute muscovite flakes. Some weathered outcrops contain concretionary sand beds a fraction of an inch thick that weather yellow, streaks of limenite, and hard black broken nodular concretions. Fossils, either large or microscopic, are exceedingly rare. This noncalcareous clay is the principal constituent of the Midway for at least 200 feet above the base.

Published data do not mention specifically the occurrence in this area of beds of Midway age east of the NW¼ sec. 26, T. 11 S., R. 23 W., but undoubted Midway crops out northeast of Prescott, in sec. 4, T. 11 S., R 22 W., northwest of Beirne, in sec. 2, T. 10 S., R 21 W.; north of Smithton, in sec. 10, T. 9 S., R. 20 W.; and west of Curtis, in sec. 36, T. 8 S., R. 20 W.

It is usually impossible to differentiate the Midway and the Arkadelphia on the basis of the lithologic descriptions afforded by the driller's log, but it is believed that a rough separation of them could be readily accomplished by testing cuttings with hydrochloric acid. The lower 30 to 50 feet of the Midway and the Arkadelphia, being calcareous, would show effervescence with acid, whereas the Midway, except for its basal part, is not calcareous and would not effervesce. Until the general applicability of this test is established it should be applied with caution at considerable distances from the outcrop.

6
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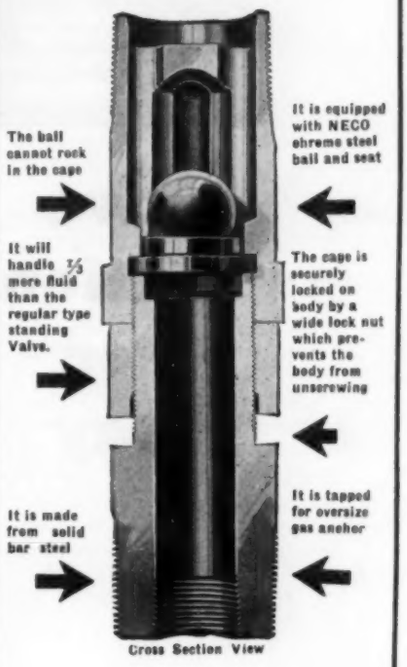
The ball cannot rock in the cage
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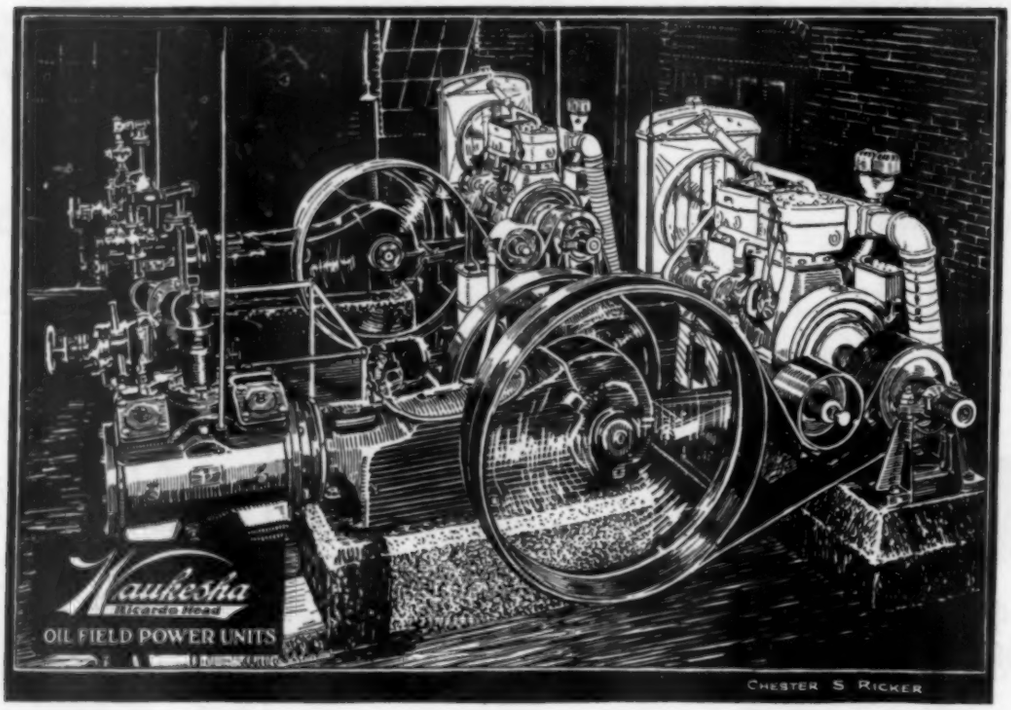
Waukesha "Ricardo Head" Oil Field Power Units at Washington, Pa.



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Two million cubic feet of gas a day is what these 100 H. P. Waukesha "Ricardo Head" Oil Field Power Units are delivering for McCloy-Campbell-McCloy at Washington, Pa. They drive 14 x 10 single stage Ingersoll-Rand Gas Boosters running at 275 R. P. M. with a discharge pressure of 50 pounds. Whether in Pennsylvania, Oklahoma, Texas or California you will find similar Waukesha Oil Field Power Units are giving satisfactory 24 hour continuous service whenever required, and doing it with minimum fuel cost and upkeep expense.

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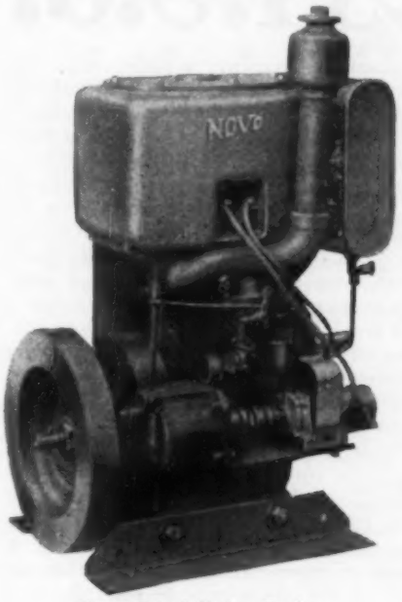


Novo Two-Cylinder Engine

Novo Puts Out Efficient Small Engine

A two-cylinder, three to six horsepower engine is among the recent equipment of the Novo Engine Company, Lansing, Michigan, to be put on the market. This engine is recommended for any type of work where horsepower requirements range from three to six.

Both the crankshaft and driveshaft run in Timkin roller bearings.

The engine has the opposed throw 180 per cent counterbalanced crankshaft.

Two types can be furnished: the hopper or radiator cooled. Where the load is constant the company recommends the radiator cooled engine. For intermittent duty, the hopper cooled UF engine is said to be better.

The engine occupies a floor space of about 20 inches square. Its weight is approximately 350 pounds.

Both types, hopper and radiator cooled, are furnished with the drive on either side. The drive shaft is gear-driven from the crankshaft through heavy duty heat treated nickel chromium wide face power gears. Carburetor, magneto, governor and other accessories are on the side of the engine away from the machinery being operated.

There are four drive shaft speeds: 400, 600, 1200 and 1800 R.P.M. The 400 R.P.M. gear combination is furnished "A" or "B" drive with left hand-anti-clockwise-direction of rotation of drive shaft. The 600 and 1200 R.P.M. gear combination furnished with "A" or "B" drive in either direction of rotation. The 1800 R.P.M. gear combination furnished in either "A" or "B" drive, the shaft running right hand—clockwise—direction of rotation.

More advantageous details will be furnished by the company, on request.

Adjustable Die Stocks for Power Drives

The No. 70 series of Beaver adjustable die stocks is a recent addition to the line manufactured by The Borden Company, 514 Dana Ave., Warren, Ohio, and is adapted to use with power drives. Backing off by hand is eliminated because the dies may be quickly thrown open after the thread is cut.

Each tool threads several different sizes of pipe without changing dies or bushings. Left hand threads may be cut in the same tool by inserting left hand dies. Wide dies are used.

The die adjusting cam is beneath the dies, thus eliminating obstruction above the dies. Chips fall out and away from the dies.

The three-jaw, universal chuck centers all sizes of pipe.

Additional information will be supplied by The Borden Company.

Belt Tightener Simplifies Slack Problem

Splicing or tightening belts is greatly simplified with the use of the Rex Belt Tightener, made and sold by Fuller Machine & Forge Works, R. F. D. No. 2, Box 15, Norwalk, California.

The tightener is made of steel with strong right and left-hand acme threads. It is made to take a belt from 10 to 16 inches. Clamping members are slotted for clamping bolts, and may be adjusted to take a wide or narrow belt.

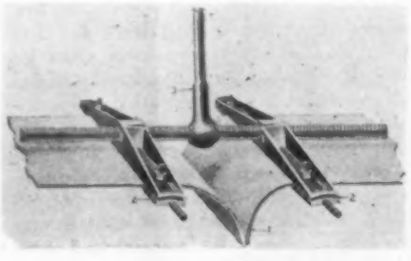
Five feet of slack may be taken up at one time without readjusting the tightener. The belt cannot slip in the clamping members, as these members have curved gripping teeth.

The ratchet wrench may be reversed, which releases the tension on the belt. The belt is held in position by screws and nuts. The tightener is held by the ratchet wrench which can only be released by manual operation.

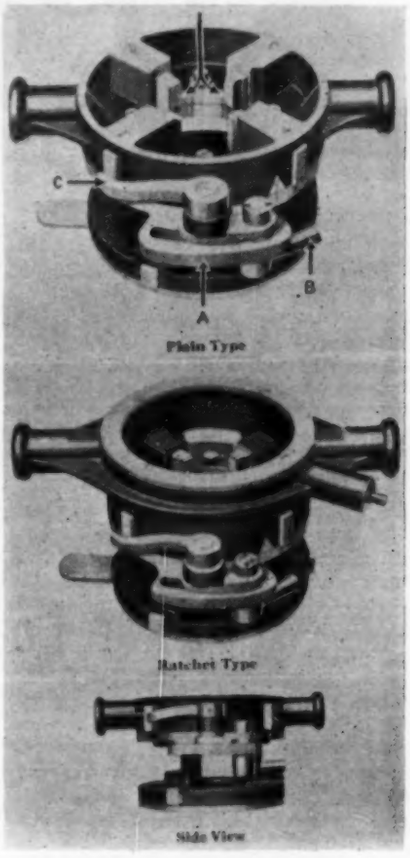
To take up slack in the belt, the clamping members are placed on the belt about five feet apart. The right and left hand nuts in the clamping members are then engaged and the slack taken up by the ratchet wrench which is positioned in the center of the screw.

The tightener can be operated by one man. It can be assembled by one man and carried from well to well.

More information can be had from the company on request.



Rex Belt Tightener



Beaver Adjustable Die Stocks

Move Office

Announcement is made of the removal of the offices of Porter & Company from 629 South Spring Street to the Board of Trade Building at the corner of 7th and Main Streets, Los Angeles.

In the new location Porter & Company will occupy a large suite of offices comprising five private offices, reception room, conference room and drafting quarters to adequately accommodate the business for several years to come. Installations for several briquetting plants are now being made under the direction of Porter & Company.

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I gess yu hav bin thinkin hunny that I was 2 timin yu on account of I aint ritten nor neether cum 2 sea yu in a cupple weeks, but hunny I hav bin bizzy on account of the conversashun bord whitch mabe yu hav herd about & did not hav time 2 rite 2 yu & the pres. both so I had 2 rite 2 him on a matter of publick bennyfits, so of corse yu will understand how it is.

then after I had herd that it was not moar than six yeres of oil feelds left accordin 2 the conversashun bord I kinder gotten skared for sum of the boys whitch does not no nuthin but oil feelds & wood starve 2 deth if the oil was all gone, so I set out for a little trip in mi flivver 2 sea sum feelds whitch has bin kept on the map for sum times & still goin a little—sum strong & sum stronger—& rid over 2 spindeltop. or mabe I had better say that I detoored over 2 bomont whitch wood be moar like it. it seams like they are havin trubbel gittin the cement 2 set in liberty county so yu hav 2 sidetrack if yu want 2 git over that away & even then a hole lot of it is mudded off. but ennyway I went whitch is the kind of a guy I am. I aint started nowheres yet except I ether gotten there or changed mi mine & went sumwheres elst.

well I will not giv yu a hole lot of detales about it, but I seen a lot of oil feelds in the corse of a 2-day ride cumin & goin & a few refinries besides. first we went 2 barbers hill where it is a hole lot of drillin in site & not mutch oil, then we cum along bi liberty only we only went in the town & not the feeld & all the sines we seen of oil was sum new bildins in the town whitch has did more new work sinct the oil strike than was done for a 100 yeres up 2 then.

then we cum 2 hull where it is moar or less oil work goin on & noboddy plannin 2 be done in six yeres so far as yu cood judge. then cum batson & saratoga, neether 1 of whitch is bustin the market rite now but whitch can be counted on 2 keep on puttin out sum oil for a few yeres yet, & then on 2 bomont.

well hunny natrally it was bomont & spindel top whitch I was hedin for on account of evry onct in so often I hav 2 go over there 2 sea how that old feeld is cummin along. but hunny old spindel top aint what she uster be. They hav moved the feeld over about a ½ a mile or so & goin after oil & gittin it, just like I told them they wood a long time ago when they thort I was a nut for thinkin they cood drill deep enuff to find it.

hunny it is werkin out over there just like I always sed. the old feeld is rite up on top of the dume whitch is a big salt plug with a lake of oil like a sauser on the top of it & what slopped off of the sauser has run down on the side so that the deeper they go the moar oil they git.

but I am werryin yu with a lot of detales about bizness while yu wood a hole lot rether for me 2 giv yu a account of mi persenel afares whitch is moar interestinger 2 yu than a oil feeld. well. first off I did not spend no time with no wimmin, on account of I had lost her foam number or she had moved, so I cood not find her.

well I had a cupple yung fellers name spenser robinson & wallis davis whitch sum peeple calls roy for short with me, or mabe I was with them, but ennyway we was all 2gether when we got 2 the bomont hotel about dinner time, only bomont is now gittin big enuff 2 call dinner luntch, & the first feller we run in2 was karl fauts who is a scout for the vacuum whitch he was puttin 2 them he run in2 in the lobby of the hotel. well he was sober so he did not reckernize me from me meetin him over at segeen last spring. well we et at the hotel but I dont remember what we et & then got in a chevvylay coopay with cap. radford & went out 2 the feeld. but don't say nuthin about cap takin us in his car on account of he works for the rio bravo & the s. p. is kinder jellus of peeple ridin in automobeels along side of the tracks where there tranes runs, whitch they hav a line rite down threw the deep stuff at spindel top whitch is the reesen rio bravo is rite in the middle of things & the biggest law sute that has cum up in bomont in a long time.

well I never had saw cap before but he is a nise boy & got reel perlite 2 me when I told him I had holp john suman with his book. cap is a kinder of a inventer hisownself or mabe just a discovverer, but ennyway he has found out that laddys ridin in closed automobeels think that yu can't see inside, but yu can from the second floor so that is where cap has his room & after he showed me what yu can sea they had 2 call me twict 2 git me 2 go 2 supper.

like I sed hunny, old spindeltop aint what she uster be, but the funnyest change I seen was in sines in the ditches whitch is about 4 or 5 feet deep & full of mud & watter & oil whitch says "no parkin hear." I also seen sum sines whitch shows the effecks of the conversashun movement whitch sed "no smoking" with leevin out the "e" whitch most sine riters put in them.

but on the hole the feeld is a hole lot like sum moar I hav saw with wells drillin & flowin & pumpin & waggins & trucks & peeple & automobeels all runnin over eatch other & a few onnery lookin laws runnin up & down with guns on sos 2 make it look wild, on account of evry town whitch has a oil feeld bi it thinks they ort 2 uncovver 1 corner of hell in sellerbrashun on account of they think a man with oil on his close & a 10$ in his pockit is sum kind of a desperader.

well then we cum on back 2 the hotel & went up in cap's room like I sed awhile back & I set there & watched the cars cummin & goin & now I sea the advantedges of narrer streats & then we went out & et & atfer that we got in mi henryetter & rode down 2 port arthur 2 sea what was goin on whitch it was not nuthin that we saw escept a hole lot of refinin & then we cum on back 2 bomont & went 2 bed.

then in the mornin we went out 2 spindel top agin a little while & then over 2 sour lake where they is figgerin on mabe doin the saim thing that spindel top has did & I seen mi old frend john long whitch has bin werkin for the gulph sinct way back when they was the guffey peeple & whitch has sum wells at sour lake & other plases in them parts pumpin a few barrels of oil. sour lake is startin off on sum deep holes that mabe will do like spindel top is doin, but they shore do need spindletop's county rode.

well bi then I was gittin kinder tired of lookin at oil derricks on account of they all look a hole lot alike 2 me & I had not saw nuthin intrestin all day escept a red hedded girl in a resterant whitch had a close hare cut in behine, so I told the other fellers 2 go on & walk around all they wanted 2 on account of I was goin 2 lay down in the shade of a steel derrick, whitch is a stunt that it aint but a few besides miself can do it, because ennyway sumboddy had lide 2 me about that bomont skotsch not givin yu no hed ake the next day.

so then we drove on back 2 huston anuther way & gotten hear for dinner & that was all it was 2 the trip, only I did find 1 brite boy over in spindel top whitch I asted him how deep was a well & he sed it was about as deep as a tree. he ort 2 be on the conversashun commity.

I hav told yu most all of the trew facks about this trip, so if ennything else lecks out about it yu will no it aint so.

yore lovin paul.

Better than an insurance policy! . . . BAROID

INSURANCE may repay you for shattered rigs and wrecked machinery—the material damage due to "blow-offs." But what about wasted labor . . delayed production . . lost markets? Who pays for them?

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Send for a sample of Baroid. Mix it with water. Do the same with some "mud from your slush pit." Let both mixtures stand. You will see that Baroid stays in suspension while the other materials settle out.

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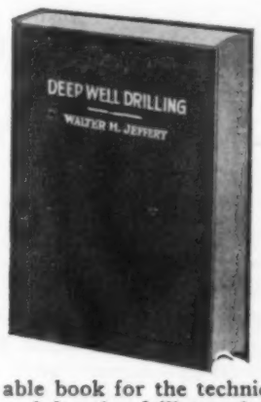
Just Off the Press

By Walter H. Jeffery



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SULCO PRODUCTS

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SQUEAKS FROM THE BULL WHEEL

A Generous Man

Two Irishmen were discussing the death of a friend, Said Pat: "Sure, Murphy was a good fellow."

"He was that," replied Mike. "A good fellow, Murphy."

"And a cheerful man was Murphy," said Pat.

"A cheerful man was Murphy, the cheerfulest I ever knew," echoed Mike.

"Murphy was a generous man, too," said Pat.

"Generous, you say? Well, I don't know so much about that. Did Murphy ever buy you anything?"

"Well, nearly," replied Mike, scratching his head. "Years ago, before prohibition, he came into Flaherty's barroom, where me and my friends were drinking, and he said to us: 'Well, men, what are we going to have—rain or snow?"—Pure Oil News.

The bride was very much disconcerted when she saw twin beds in the hotel room.

"Why, what is the matter, dear," asked the attentive husband.

"I thought when we came here we were going to have a room all to ourselves."

Those Stenogs

"Mame's got a job as a stenog."

"What, Mame—no!"

"Honest!"

"Do ya s'pose she'll get by?"

"Well, she may at that. Y'see, her boss told her right off he's a man of few words an' that sounded encouragin' to Mame—she don't know very many."

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Lay ODEE pipe, or any of our pipe and casing, along side any others you please. Then you'll find that the large saving in cost, our rigid inspection, perfect threads and couplings, make Greenspon's pipe the best dollar-for-dollar buy. Pipe in any size new and used—all guaranteed! Casing in sizes 5 3/16" to 15½" warranted to give service equal to new; equipped with perfect threads and collars. Ready for shipment. Write for prices now!

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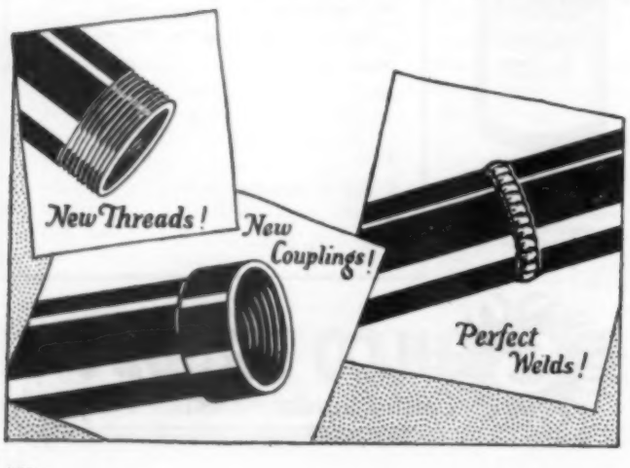

An Irishman applied for a job at a power plant.

"What can you do?" asked the chief.

"Almost anything, sor," said the Irishman.

"Well," said the chief, a bit of a joker, "you seem to be all right, could you wheel out a barrow of smoke?"

"Sure, fill it up for me."

"I hear you made your money out of the oil business," remarked Welch.

"You bet!" answered Stewart. "Been out of it all my life."—American Legion Weekly.

Of all the medicos on fame's roll,
None could a patient more console,
Than good, old Doctor Peppercorn,
A cheerier wight was never born.
To one whose feet did twinge with pain,
He said, "Old Son, pray don't complain,
But rather thank your stars indeed,
You were not sired a Centipede."
"My throat is sore in every inch,"
Confided Mary Ellen Lynch,
Quoth he, "Forget and loudly laugh,
You might have been a fool giraffe."
And when at last blows Gabriel's horn,
These words will come from Peppercorn,
"I rise with all the bones, I had
Oh Glory be! I was no Shad!"

"Yes, my boy, I reckon you can have her," sighed Old Man Hawkins to his daughter's suitor, "but take good keer of her for she's been riz kinder tenderlike. Eight acres is all I ever ast her to plow between sun-up and dark. She can do light work such as well-digging and steer-brandin', but she ain't used to no rough stuff, so you'll have to be gentle with her."

What Genoa 'Bout That

Dick (just returned)—In Italy I ran across a girl from my home town. It was in a very quaint city.

Tom—Genoa?

Dick—No, but it didn't take me long to get acquainted.—Boston Transcript.

A Positive Character

Citizen—"Say, Doc, sickness up the road. My mother-in-law says it's smallpox."

Doctor—"That so? Has your mother-in-law ever seen a case of smallpox?"

Citizen—"No, but what difference would that make?"

Poor Hornet

A teacher, trying to impress on her pupils the rightness of kindness to all animals took them for a walk to bring the lesson home to them. Hearing a scream from little Johnny, she asked: "What's the matter, Johnny?"

"I've been sitting on a hornet," was the tearful response, "and I'm afraid I've hurt the poor thing."

A Paragon of Prohibition

"You are in favor of Prohibition? You amaze me Colonel Stillwell, you are not an abstainer."

"No, but my doctor cut me down to so small an allowance, that I like to get all the excitement I can out of getting a drink."

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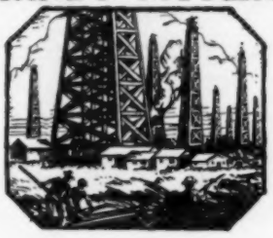

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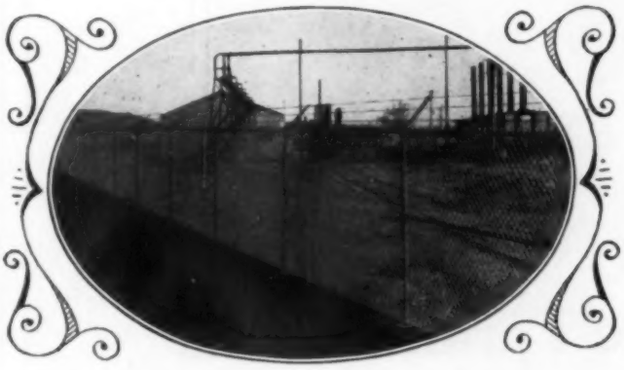

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Tribal Osage Oil Leases at Public Auction

September 30, 1926 By U. S. Government

September 30, 1926, at Pawhuska, Oklahoma, about 35,580 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual instalments, with acceptable security. Within advertised area there are about 9,615 oil wells producing from one barrel to 1000 barrels each, the total daily production for June, 1926, being about 70,000 barrels; also, there are about 135 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

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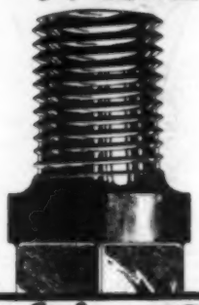

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